

Pioneer

**AUDIO/VIDEO MULTI-CHANNEL
RECEIVER**

VSX-820-K

Operating Instructions

IMPORTANT



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**

CAUTION:

TO PREVENT THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

D3-4-2-1-1_A1_En

WARNING

This equipment is not waterproof. To prevent a fire or shock hazard, do not place any container filled with liquid near this equipment (such as a vase or flower pot) or expose it to dripping, splashing, rain or moisture.

D3-4-2-1-3_A1_En

WARNING

Before plugging in for the first time, read the following section carefully.

The voltage of the available power supply differs according to country or region. Be sure that the power supply voltage of the area where this unit will be used meets the required voltage (e.g., 230 V or 120 V) written on the rear panel.

D3-4-2-1-4*_A1_En

WARNING

To prevent a fire hazard, do not place any naked flame sources (such as a lighted candle) on the equipment.

D3-4-2-1-7a_A1_En

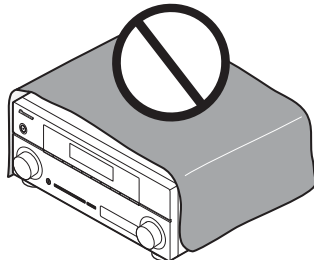
VENTILATION CAUTION

When installing this unit, make sure to leave space around the unit for ventilation to improve heat radiation (at least 40 cm at top, 10 cm at rear, and 20 cm at each side).

WARNING

Slots and openings in the cabinet are provided for ventilation to ensure reliable operation of the product, and to protect it from overheating. To prevent fire hazard, the openings should never be blocked or covered with items (such as newspapers, table-cloths, curtains) or by operating the equipment on thick carpet or a bed.

D3-4-2-1-7b*_A1_En



Operating Environment

Operating environment temperature and humidity:
+5 °C to +35 °C (+41 °F to +95 °F); less than 85 %RH
(cooling vents not blocked)

Do not install this unit in a poorly ventilated area, or in locations exposed to high humidity or direct sunlight (or strong artificial light)

D3-4-2-1-7c*_A1_En

This product is for general household purposes. Any failure due to use for other than household purposes (such as long-term use for business purposes in a restaurant or use in a car or ship) and which requires repair will be charged for even during the warranty period.

K041_A1_En

If the AC plug of this unit does not match the AC outlet you want to use, the plug must be removed and appropriate one fitted. Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel. If connected to an AC outlet, the cut-off plug can cause severe electrical shock. Make sure it is properly disposed of after removal. The equipment should be disconnected by removing the mains plug from the wall socket when left unused for a long period of time (for example, when on vacation).

D3-4-2-2-1a_A1_En

CAUTION

The **STANDBY/ON** switch on this unit will not completely shut off all power from the AC outlet. Since the power cord serves as the main disconnect device for the unit, you will need to unplug it from the AC outlet to shut down all power. Therefore, make sure the unit has been installed so that the power cord can be easily unplugged from the AC outlet in case of an accident. To avoid fire hazard, the power cord should also be unplugged from the AC outlet when left unused for a long period of time (for example, when on vacation).

D3-4-2-2a*_A1_En

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Thank you for buying this Pioneer product. Please read through these operating instructions so you will know how to operate your model properly. After you have finished reading the instructions, put them away in a safe place for future reference.

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Flow of settings on the receiver

The unit is a full-fledged AV receiver equipped with an abundance of functions and terminals. It can be used easily after following the procedure below to make the connections and settings.

The colors of the steps indicate the following:

Required setting item

Setting to be made as necessary

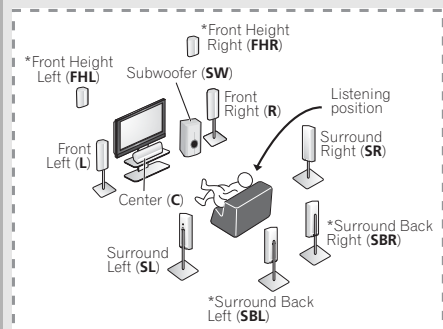
1 Before you start

- Checking what's in the box (page 7)
- Loading the batteries (page 7)

2 Connecting the speakers

Where you place the speakers will have a big effect on the sound. Place your speakers as shown below for the best surround sound effect.

- Placing the speakers (page 16)
- Connecting the speakers (page 18)
- Connect the surround back or front height speakers (page 19)



You can connect only one of either the surround back speaker or the front height speaker.

3 Connecting the components

For surround sound, you'll want to hook up using a digital connection from the BD/DVD player to the receiver.

- About video outputs connection (page 22)
- Connecting a TV and playback components (page 23)
- Connecting antennas (page 27)
- Plugging in the receiver (page 28)

4 Power On

Make sure you've set the video input on your TV to this receiver. Check the manual that came with the TV if you don't know how to do this.

5 Making the initial settings according to the region and environment in which you live

- Changing the TV format setting (page 29)
- Changing the radio frequency step (page 49)

6 The Pre Out Setting (page 47)

(When connecting the front height speakers.)

The Input Assign menu (page 46)

(When using connections other than the recommended connections.)

7 Use the on-screen automatic MCACC setup to set up your system

- Automatically setting up for surround sound (MCACC) (page 29)

8 Basic playback (page 32)

9 Adjusting the sound as desired

- Using the various listening modes
- Using the Sound Retriever (page 36)
- Better sound using Phase Control (page 37)
- Listening with Acoustic Calibration EQ (page 38)
- Using surround back channel processing (page 38)
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- Selecting the audio input signal (page 33)
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10 Making maximum use of the remote control

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Chapter 1:

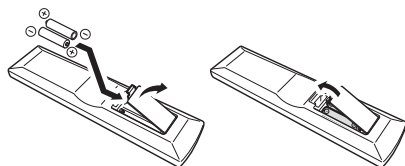
Before you start

Checking what's in the box

Please check that you've received the following supplied accessories:

- Setup microphone
- Remote control
- Dry cell batteries (AAA size IEC R03) x2
- AM loop antenna
- FM wire antenna
- iPod cable
- These operating instructions

Loading the batteries



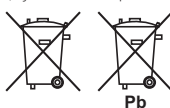
The batteries included with the unit are to check initial operations; they may not last over a long period. We recommend using alkaline batteries that have a longer life.

CAUTION

Incorrect use of batteries may result in such hazards as leakage and bursting. Observe the following precautions:

- Never use new and old batteries together.
- Insert the plus and minus sides of the batteries properly according to the marks in the battery case.
- Batteries with the same shape may have different voltages. Do not use different batteries together.
- When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.
- Do not use or store batteries in direct sunlight or other excessively hot place, such as inside a car or near a heater. This can cause batteries to leak, overheat, explode or catch fire. It can also reduce the life or performance of batteries.

(Symbol examples for batteries)



These symbols are only valid in the European Union.

K058c_A1_En

Installing the receiver

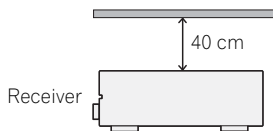
- When installing this unit, make sure to put it on a level and stable surface.

Don't install it on the following places:

- on a color TV (the screen may distort)
- near a cassette deck (or close to a device that gives off a magnetic field). This may interfere with the sound.
- in direct sunlight
- in damp or wet areas
- in extremely hot or cold areas
- in places where there is vibration or other movement
- in places that are very dusty
- in places that have hot fumes or oils (such as a kitchen)

Ventilation

When installing this unit, make sure to leave space around the unit for ventilation to improve heat dispersal (at least 40 cm at the top). If not enough space is provided between the unit and walls or other equipment, heat will build up inside, interfering with performance and/or causing malfunctions.

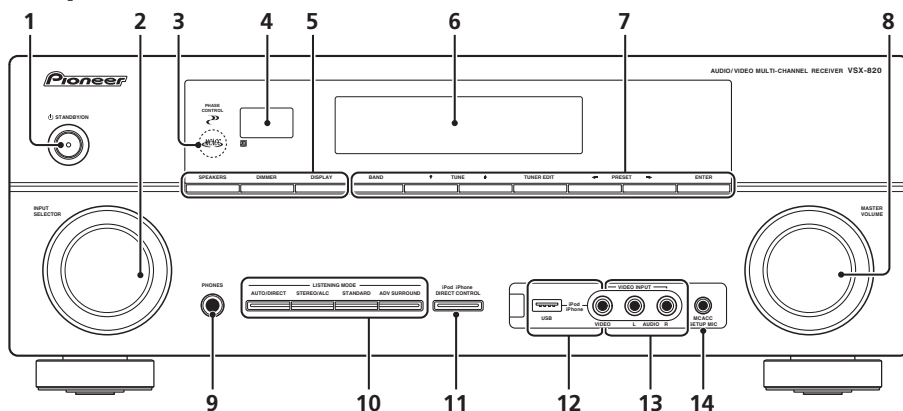


Slot and openings in the cabinet are provided for ventilation and to protect the equipment from overheating. To prevent fire hazard, do not place anything directly on top of the unit, make sure the openings are never blocked or covered with items (such as newspapers, table-cloths and curtains), and do not operate the equipment on thick carpet or a bed.

Chapter 2:

Controls and displays

Front panel

**1** **⏻ STANDBY/ON****2** **INPUT SELECTOR dial**

Selects an input source.

3 **MCACC indicator**

Lights when Acoustic Calibration EQ (page 38) is on (Acoustic Calibration EQ is automatically set to on after the Auto MCACC Setup (page 29)).

4 **Remote sensor**

Receives the signals from the remote control (see *Operating range of remote control* on page 10).

5 **SPEAKERS**

Use to change the speaker system (page 20).

DIMMER

Dims or brightens the display. The brightness can be controlled in four steps.

DISPLAY

Switches the display of this unit. The listening mode, sound volume, Pre Out setting or input name can be checked by selecting an input source.¹

6 **Character display**

See *Display* on page 11.

7 **Tuner control buttons****BAND**

Switches between AM, FM ST (stereo) and FM MONO radio bands (page 48).

TUNE **↑/↓**

Used to find radio frequencies (page 48).

TUNER EDIT

Use with **TUNE** **↑/↓**, **PRESET** **←/→** and **ENTER** to memorize and name stations for recall (page 48, 49).

Note

¹ The Pre Out setting may or may not be displayed, depending on the input source you have selected.

PRESET ◀/▶

Use to select preset radio stations (page 49).

8 MASTER VOLUME dial**9 PHONES jack**

Use to connect headphones. When the headphones are connected, there is no sound output from the speakers. The listening mode when the sound is heard from the headphone can be selected only from **STEREO** or **ALC**.

10 Listening mode buttons**AUTO/DIRECT**

Switches between Auto surround mode (*Auto playback* on page 33) and Stream Direct playback. Stream Direct playback bypasses the tone controls for the most accurate reproduction of a source (page 36).

STEREO/ALC

Switches between stereo playback, Auto level control stereo mode (page 35) and Front Stage Surround Advance modes (page 36).

STANDARD

Press for Standard decoding and to switch between the various **Pro Logic II**, **Pro Logic IIx**, **Pro Logic IIz** and **NEO:6** options (page 32).

ADV SURROUND

Switches between the various surround modes (page 35).

11 iPod iPhone DIRECT CONTROL

Change the receiver's input to the **iPod** and enable iPod operations on the iPod (page 66).

12 iPod iPhone/USB terminal

Use to connect your Apple iPod or USB mass storage device as an audio source (page 64 and page 67).

13 AUDIO/VIDEO input

See *Connecting to the front panel video terminal* on page 28.

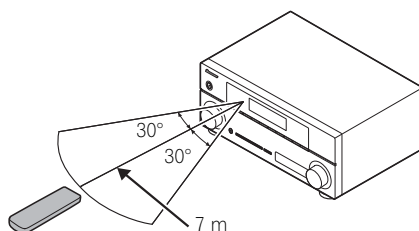
14 MCACC SETUP MIC jack

Use to connect a microphone when performing Auto MCACC setup.

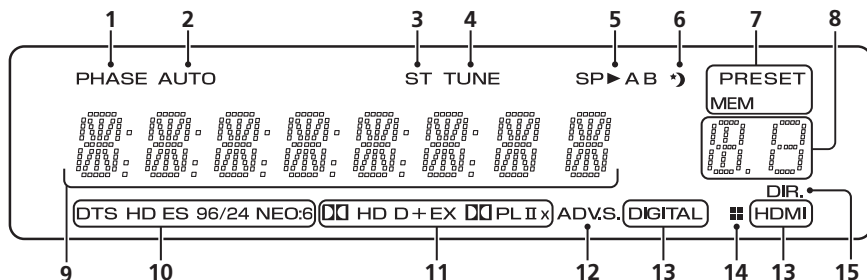
Operating range of remote control

The remote control may not work properly if:

- There are obstacles between the remote control and the receiver's remote sensor.
- Direct sunlight or fluorescent light is shining onto the remote sensor.
- The receiver is located near a device that is emitting infrared rays.
- The receiver is operated simultaneously with another infrared remote control unit.



Display



1 PHASE

Lights when the Phase Control is switched on (page 37).

2 AUTO

Lights when the Auto Surround feature is switched on (see *Auto playback* on page 33).

3 ST

Lights when a stereo FM broadcast is being received in auto stereo mode.

4 TUNE

Lights when a normal broadcast channel is being received.

5 Speaker indicators

Lights to indicate the current speaker system, **A** and/or **B** (page 20).

6 Sleep timer indicator

Lights when the receiver is in sleep mode (page 13).

7 Tuner preset indicators

PRESET

Shows when a preset radio station is registered or called.

MEM

Blinks when a radio station is registered.

8 PRESET information or input signal indicator

Shows the preset number of the tuner or the input signal type, etc.

9 Character display

Displays various system information.

10 DTS indicators

DTS

Lights when a source with DTS encoded audio signals is detected.

HD

Lights when a source with DTS-EXPRESS or DTS-HD encoded audio signals is detected.

ES

Lights to indicate DTS-ES decoding.

96/24

Lights when a source with DTS 96/24 encoded audio signals is detected.

NEO:6

When one of the NEO:6 modes of the receiver is on, this lights to indicate NEO:6 processing (page 34).

11 Dolby Digital indicators

DD

Lights when a Dolby Digital encoded signal is detected.

DD+

Lights when a source with Dolby Digital Plus encoded audio signals is detected.

HD

Lights when a source with Dolby TrueHD encoded audio signals is detected.

EX

Lights to indicate Dolby Digital EX decoding.

PLII(x)

Lights to indicate **PLII** Pro Logic II / **PLIIx** Pro Logic IIx decoding. Light will go off during **PLIIz** Pro Logic IIz decoding (see *Listening in surround sound* on page 34 for more on this).

12 ADV.S.

Lights when one of the Advanced Surround modes has been selected (see *Using the Advanced surround effects* on page 35 for more on this).

13 SIGNAL SELECT indicators**DIGITAL**

Lights when a digital audio signal is selected.

Blinks when a digital audio signal is selected and selected audio input is not provided.

HDMI

Lights when an HDMI signal is selected.
Blinks when an HDMI signal is selected and selected HDMI input is not provided.

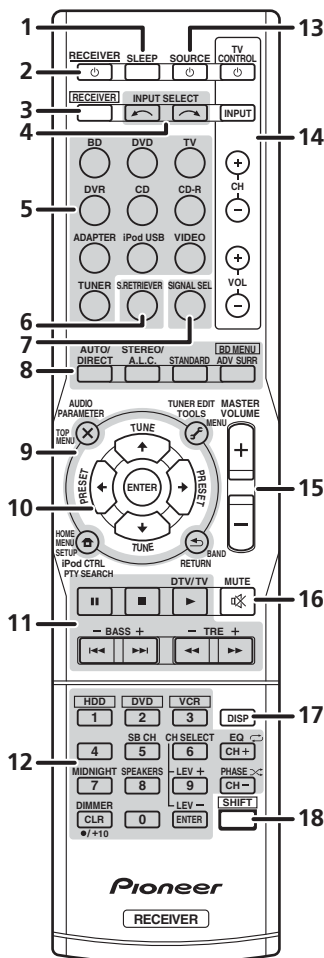
14 Up Mix/DIMMER indicator

Lights when the Up Mix function is set to **ON** (see page 38). Also, lights when DIMMER is set to off.

15 DIR.

Lights when the **DIRECT** or **PURE DIRECT** mode is switched on (page 36).

Remote control



1 SLEEP

Press to change the amount of time before the receiver switches into standby (**30 min – 60 min – 90 min – Off**). You can check the remaining sleep time at any time by pressing **SLEEP** once.

2 RECEIVER

Switches the receiver between standby and on.

3 [RECEIVER]

Switches the remote to control the receiver (used to select the white commands above the number buttons (**MIDNIGHT**, etc)). Also use this button to set up surround sound (page 42) or Audio parameters (page 39).

4 INPUT SELECT

Use to select the input source.

5 Input function buttons

Use to select the input source to this receiver. This will enable you to control other components with the remote control (see *Controlling the rest of your system* on page 51).

6 S.RETRIEVER

Press to restore CD quality sound to compressed audio sources (page 36).

7 SIGNAL SEL

Press to select the audio input signal of the component to play back (page 33).

8 Listening mode buttons

AUTO/DIRECT

Switches between Auto surround mode (*Auto playback* on page 33) and Stream Direct playback. Stream Direct playback bypasses the tone controls for the most accurate reproduction of a source (page 36).

STEREO/A.L.C.

Switches between stereo playback, Auto level control stereo mode (page 35) and Front Stage Surround Advance modes (page 36).

STANDARD

Press for Standard decoding and to switch between Pro Logic II options (page 34).

ADV SURR

Switches between the various surround modes (page 35).

Press **BD** first to access:

BD MENU*

Displays the disc menu of Blu-ray Discs.

9 System Setup and component control buttons

The following button controls can be accessed after you have selected the corresponding input function button (**BD**, **DVD**, etc.).

Press **RECEIVER** first to access:

AUDIO PARAMETER

Use to access the Audio options (page 39).

SETUP

Press to access the System Setup menu (page 42).

RETURN

Confirm and exit the current menu screen.

Press **BD**, **DVD** or **DVR** first to access:

TOP MENU

Displays the disc 'top' menu of a BD/DVD.

HOME MENU

Displays the HOME MENU screen.

RETURN

Confirm and exit the current menu screen.

MENU

Displays the TOOLS menu of Blu-ray Disc player.

Press **TUNER** first to access:

TUNER EDIT

Memorizes/names stations for recall (page 48 and 49).

BAND

Switches between AM, FM ST (stereo) and FM MONO radio bands (page 48).

Press **iPod USB** first to access:

iPod CTRL

Switches between the iPod controls and the receiver controls (page 66).

10 ↑↓←→ (TUNE ↑/↓, PRESET ←/→), ENTER

Use the arrow buttons when setting up your surround sound system (page 42). Also used to control BD/DVD menus/options.

Use the **TUNE** ↑/↓ buttons can be used to find radio frequencies (page 48) and the **PRESET** ←/→ buttons can be used to select preset radio stations (page 49).

11 Component control buttons

The main buttons (▶, ■, etc.) are used to control a component after you have selected it using the input function buttons.

The controls above these buttons can be accessed after you have selected the corresponding input function button (**BD**, **DVD**, **DVR** and **CD**). These buttons also function as described below.

Press **RECEIVER** first to access:

BASS -/+

Use to adjust Bass¹

TRE -/+

Use to adjust Treble¹

Press **TV** first to access:

DTV/TV

Switches between the DTV and analog TV input modes for Pioneer TVs.

12 Number buttons and other component controls

Use the number buttons to directly select a radio frequency (page 48) or the tracks on a CD, etc. There are other buttons that can be accessed after the **RECEIVER** button is pressed. (For example **MIDNIGHT**, etc.)

HDD*, DVD*, VCR*

These buttons switch between the hard disk, DVD and VCR controls for HDD/DVD/VCR recorders.

Note

¹ The tone controls are disabled when the listening mode is set to **DIRECT** or **PURE DIRECT**.

SB CH

Press to select **ON**, **AUTO**, **OFF** the surround back channel.

CH SELECT

Press repeatedly to select a channel, then use **LEV +/-** to adjust the level (page 45).

LEV +/-

Use to adjust the channel level.

EQ

Press to switch on/off Acoustic Calibration EQ setting (page 38).

MIDNIGHT

Switches to Midnight or Loudness listening (page 40).

SPEAKERS

Use to change the speaker system (page 20).

PHASE

Press to switch on/off Phase Control (page 37).

DIMMER

Dims or brightens the display. The brightness can be controlled in four steps.

13 SOURCE

Press to turn on/off other components connected to the receiver (see page 54 for more on this).

14 TV CONTROL buttons

These buttons are dedicated to control the TV assigned to the **TV** button. Thus if you only have one TV to hook up to this system assign it to the **TV** button (see page 53 for more on this).



Use to turn on/off the power of the TV.

INPUT

Use to select the TV input signal.

CH +/-

Use to select channels.

VOL +/-

Use to adjust the volume on your TV.

15 MASTER VOLUME +/-

Use to set the listening volume.

16 MUTE

Mutes/unmutes the sound.

17 DISP

Switches the display of this unit. The listening mode, sound volume, Pre Out setting or input name can be checked by selecting an input source.¹

18 SHIFT

Press to access the 'boxed' commands (above the buttons) on the remote. These buttons are marked with an asterisk (*) in this section.

Note

¹ The Pre Out setting may or may not be displayed, depending on the input source you have selected.

Chapter 3:

Connecting your equipment

Placing the speakers

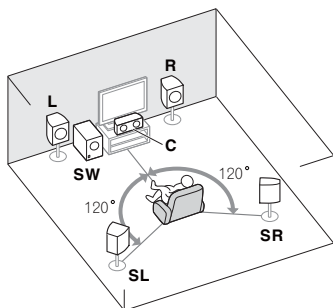
By connecting the left and right front speakers (**L/R**), the center speaker (**C**), the left and right surround speakers (**SL/SR**), and the subwoofer (**SW**), a 5.1 ch surround system can be enjoyed.

Further, by using an external amplifier, you can connect the left and right surround back speakers (**SBL/SBR**) and the left and right front height speaker (**FHL/FHR**) to boost your system up to a 7.1 ch surround system.

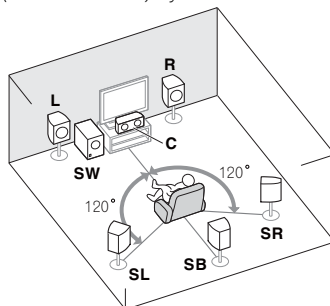
- You can also connect one surround back speaker (**SB**) and enjoy a 6.1 ch surround system.

To achieve the best possible surround sound, install your speakers as shown below.

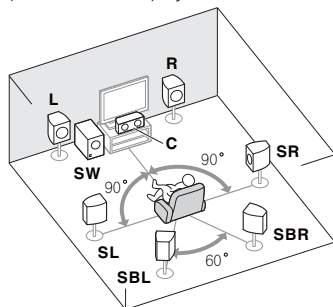
5.1 channel surround system:



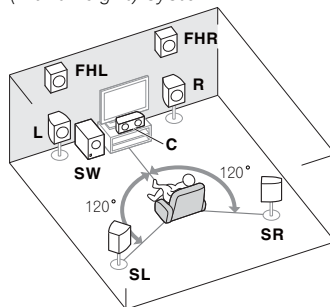
6.1 channel surround (Surround back) system: ^a



7.1 channel surround (Surround back) system: ^a



7.1 channel surround (Front height) system: ^a



^a. This layout is available only when the additional amplifier is connected to the unit and the surround back or front height speakers are connected to the amplifier. For details, see *Connect the surround back or front height speakers* on page 19.

Hints on the speaker placement

Where you put your speakers in the room has a big effect on the quality of the sound. The following guidelines should help you to get the best sound from your system.

- The subwoofer can be placed on the floor. Ideally, the other speakers should be at about ear-level when you're listening to them. Putting the speakers on the floor (except the subwoofer), or mounting them very high on a wall is not recommended.
- For the best stereo effect, place the front speakers 2 m to 3 m apart, at equal distance from the TV.
- If you're going to place speakers around your CRT TV, use shielded speakers or place the speakers at a sufficient distance from your CRT TV.
- If you're using a center speaker, place the front speakers at a wider angle. If not, place them at a narrower angle.
- Place the center speaker above or below the TV so that the sound of the center channel is localized at the TV screen. Also, make sure the center speaker does not cross the line formed by the leading edge of the front left and right speakers.
- It is best to angle the speakers towards the listening position. The angle depends on the size of the room. Use less of an angle for bigger rooms.
- Surround and surround back speakers should be positioned 60 cm to 90 cm higher than your ears and tilted slight downward. Make sure the speakers don't face each other. For DVD-Audio, the speakers should be more directly behind the listener than for home theater playback.

- If the surround speakers cannot be set directly to the side of the listening position with a 7.1-channel system, the surround effect can be enhanced by turning off the Up Mix function (see *Setting the Up Mix function* on page 39).
- Try not to place the surround speakers farther away from the listening position than the front and center speakers. Doing so can weaken the surround sound effect.
- Place the left and right front height speakers at least one meter directly above the left and right front speakers.

CAUTION

- Make sure that all speakers are securely installed. This not only improves sound quality, but also reduces the risk of damage or injury resulting from speakers being knocked over or falling in the event of external shocks such as earthquakes.

Important

- To connect the surround back or front height speakers, an additional amplifier is required. Connect the additional amplifier to the **PRE OUT SURR BACK/FRONT HEIGHT** outputs of this unit and connect the surround back or front height speakers to the additional amplifier (see *Connect the surround back or front height speakers* on page 19).
The Pre Out setting must be set if the above connections are performed. Select **SURR.BACK** if the surround back speaker is connected and **HEIGHT** if the front height speaker is connected (If neither the surround back speaker nor the front height speaker is connected, either setting will suffice) (see *The Pre Out Setting* on page 47).

Connecting the speakers

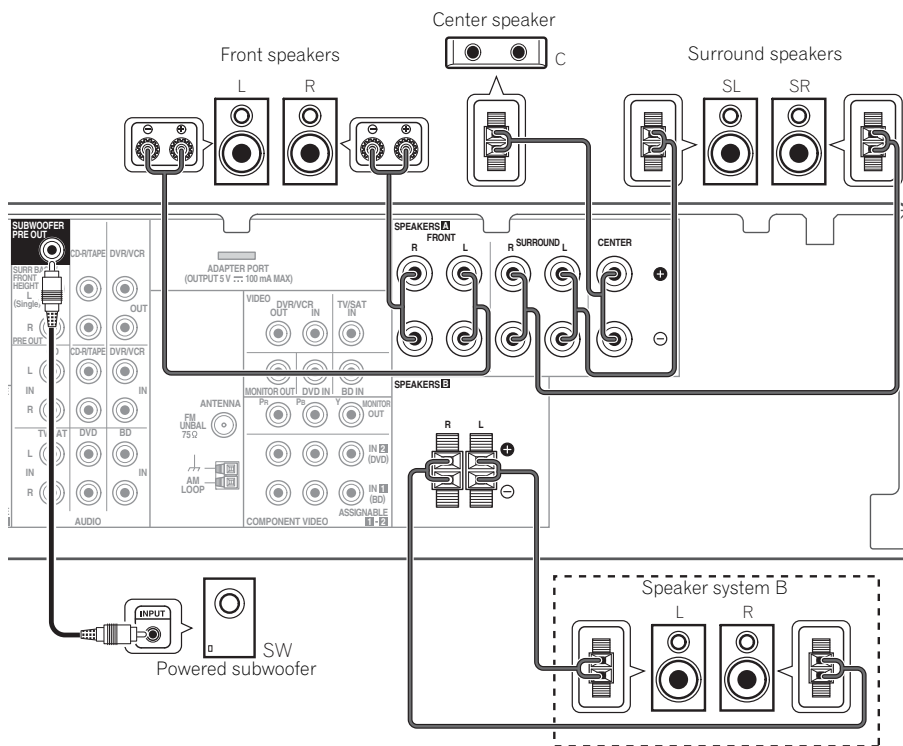
The receiver will work with just two stereo speakers (the front speakers in the diagram) but using at least three speakers is recommended, and a complete setup is best for surround sound.

Make sure you connect the speaker on the right to the right (**R**) terminal and the speaker on the left to the left (**L**) terminal. Also make sure the positive and negative (+/-) terminals on the receiver match those on the speakers.

You can use the speakers connected to the B speaker terminals to listen to stereo playback in another room. See *Switching the speaker system* on page 20 for the listening options with this setup.

You can use speakers with a normal impedance between $6\ \Omega$ and $16\ \Omega$. However, note that only the front speakers are set to a value between $12\ \Omega$ and $16\ \Omega$ if you select **SP►AB** in *Switching the speaker system* on page 20.

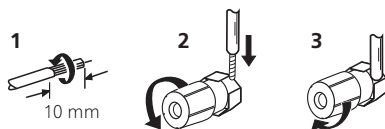
Be sure to complete all connections before connecting this unit to the AC power source.



Bare wire connections

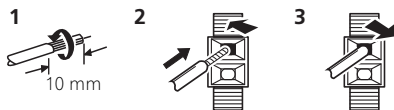
A-Speaker terminals:

- 1 **Twist exposed wire strands together.**
- 2 **Loosen terminal and insert exposed wire.**
- 3 **Tighten terminal.**



B-Speaker terminals:

- 1 **Twist exposed wire strands together.**
- 2 **Push open the tabs and insert exposed wire.**
- 3 **Release the tabs.**



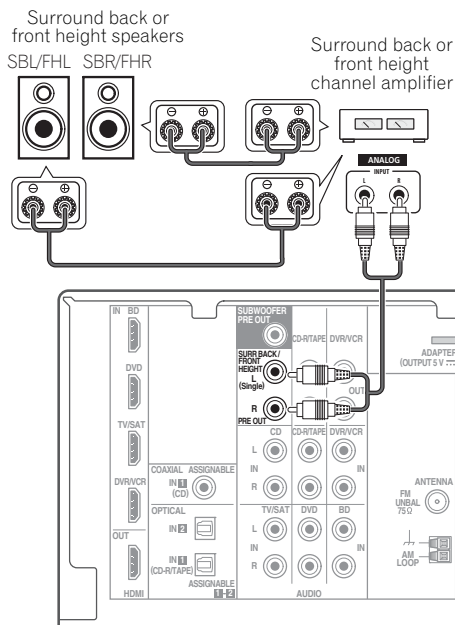
CAUTION

- These speaker terminals carry **HAZARDOUS LIVE voltage**. To prevent the risk of electric shock when connecting or disconnecting the speaker cables, disconnect the power cord before touching any uninsulated parts.
- Make sure that all the bare speaker wire is twisted together and inserted fully into the speaker terminal. If any of the bare speaker wire touches the back panel it may cause the power to cut off as a safety measure.

Connect the surround back or front height speakers

Connect the **PRE OUT** outputs of the unit and additional amplifier to add a surround back or front height speaker.

- If the surround back speaker or the front height speaker is connected, set the Pre Out setting (see *The Pre Out Setting* on page 47).



- You can use the additional amplifier on the surround back channel pre-outs for a single speaker as well. In this case plug the amplifier into the left (**L (Single)**) terminal only.

Switching the speaker system

Three speaker system settings are possible using the **SPEAKERS** button.

- Use the **SPEAKERS** button on the front panel to select a speaker system setting.¹

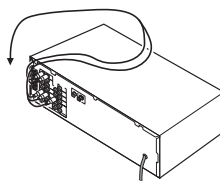


Press repeatedly to choose a speaker system option:

- **SP►A** – Sound is output from the speakers connected to the A speaker terminals and **PRE OUT SURR BACK/FRONT HEIGHT** (multichannel playback is possible).
- **SP►B** – Sound is output from the two speakers connected to speaker system B (only stereo playback is possible).
- **SP►AB** – Sound is output from speaker system A, the two speakers in speaker system B, and the subwoofer. Multichannel sources are downmixed only when the **STEREO** or **ALC** mode is selected for stereo output from speaker systems A and B.²
- **SP►** – No sound is output from the speakers.

Making cable connections

Make sure not to bend the cables over the top of this unit (as shown in the illustration). If this happens, the magnetic field produced by the transformers in this unit may cause a humming noise from the speakers.

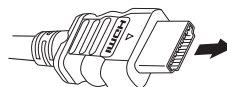


Important

- Before making or changing connections, switch off the power and disconnect the power cord from the AC outlet.
- Before unplugging the power cord, switch the power into standby.

HDMI cables

Both video and sound signals can be transmitted simultaneously with one cable. If connecting the player and the TV via this receiver, for both connections, use HDMI cables.³



HDMI cable

Be careful to connect the terminal in the proper direction.

Note

- 1 The subwoofer output depends on the settings you made in *Speaker Setting* on page 43. However, if **SP►B** is selected above, no sound is heard from the subwoofer (the LFE channel is not downmixed).
- 2 You can use speakers with a normal impedance between 6 Ω and 16 Ω . However, be aware that only the front speakers are set to a value between 12 Ω and 16 Ω when you select **SP►AB**.
- 3 • Set the HDMI parameter in *Setting the Audio options* on page 39 to **THRU** (THROUGH) and set the input signal in *Selecting the audio input signal* on page 33 to **HDMI**, if you want to hear HDMI audio output from your TV (no sound will be heard from this receiver).
 - If the video signal does not appear on your TV, try adjusting the resolution settings on your component or display. Note that some components (such as video game units) have resolutions that may not be displayed. In this case, use a (analog) composite connection.
 - When the video signal from the HDMI is 480i, 480p, 576i or 576p, Multi Ch PCM sound and HD sound cannot be received.

About HDMI

The HDMI connection transfers uncompressed digital video, as well as almost every kind of digital audio that the connected component is compatible with, including DVD-Video, DVD-Audio, SACD, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio (see below for limitations), Video CD/Super VCD and CD.

This receiver incorporates High-Definition Multimedia Interface (HDMI®) technology.

This receiver supports the functions described below through HDMI connections.¹

- Digital transfer of uncompressed video (contents protected by HDCP (1080p/24, 1080p/60, etc.))
- 3D signal transfer²
- Deep Color signal transfer²
- x.v.Color signal transfer²
- Input of multi-channel linear PCM digital audio signals (192 kHz or less) for up to 8 channels
- Input of the following digital audio formats:³
 - Dolby Digital, Dolby Digital Plus, DTS, High bitrate audio (Dolby TrueHD, DTS-HD Master Audio), DVD-Audio, CD, SACD (DSD signal), Video CD, Super VCD

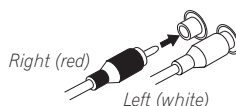
HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC in the United States and other countries.

"x.v.Color" and x.v.Color logo are trademarks of Sony Corporation.

Analog audio cables

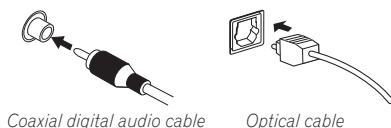
Use stereo RCA phono cables to connect analog audio components. These cables are typically red and white, and you should connect the red plugs to R (right) terminals and white plugs to L (left) terminals.

Analog audio cables



Digital audio cables

Commercially available coaxial digital audio cables or optical cables should be used to connect digital components to this receiver.⁴



Video cables

Standard RCA video cables

These cables are the most common type of video connection and are used to connect to the composite video terminals. The yellow plugs distinguish them from cables for audio.



Standard RCA video cable

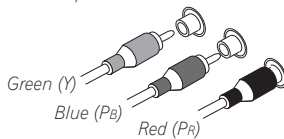
Note

- 1 • Use a High Speed HDMI® cable. If HDMI cable other than a High Speed HDMI® cable is used, it may not work properly.
 - When an HDMI cable with a built-in equalizer is connected, it may not operate properly.
- 2 Signal transfer is only possible when connected to a compatible component.
- 3 • HDMI format digital audio transmissions require a longer time to be recognized. Due to this, interruption in the audio may occur when switching between audio formats or beginning playback.
 - Turning on/off the device connected to this unit's HDMI OUT terminal during playback, or disconnecting/connecting the HDMI cable during playback, may cause noise or interrupted audio.
- 4 • When connecting optical cables, be careful when inserting the plug not to damage the shutter protecting the optical socket.
 - When storing optical cable, coil loosely. The cable may be damaged if bent around sharp corners.
 - You can also use a standard RCA video cable for coaxial digital connections.

Component video cables

Use component video cables to get the best possible color reproduction of your video source. The color signal of the TV is divided into the luminance (**Y**) signal and the color (**Pb** and **Pr**) signals and then output. In this way, interference between the signals is avoided.

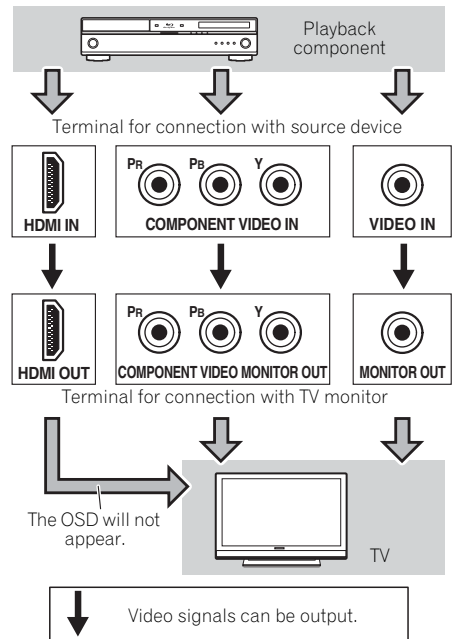
Component video cables



About video outputs connection

This receiver is not loaded with a video converter. When you use component video cables or HDMI cables for connecting to the input device, the same cables should be used for connecting to the TV.

The signals input from the analog (composite and component) video inputs of this unit will not be output from the **HDMI OUT**.

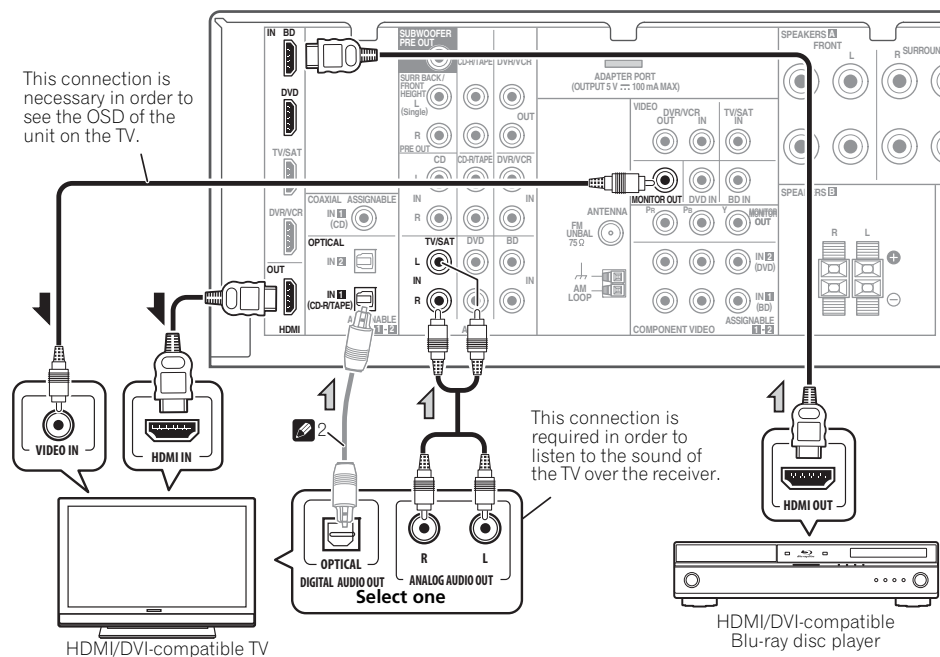


Connecting a TV and playback components

Connecting using HDMI

If you have an HDMI or DVI (with HDCP) equipped component (Blu-ray disc player, etc.), you can connect it to this receiver using a commercially available HDMI cable.

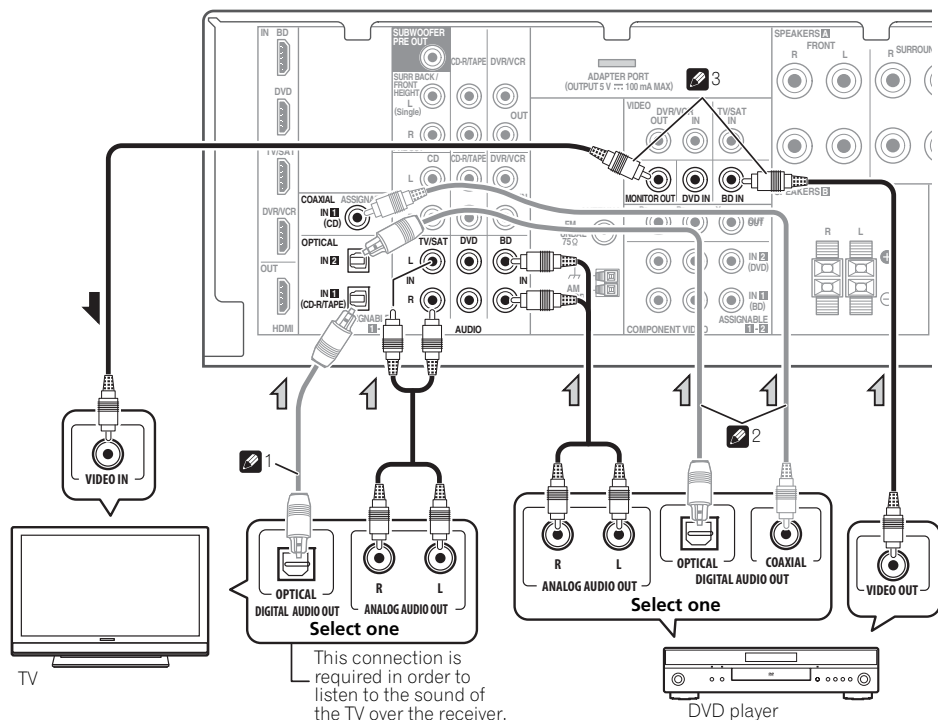
- If the receiver is connected to a TV using an HDMI cable, the on-screen display (OSD) will not be displayed. Be sure to use a standard RCA analog video cable to connect.¹



Note

- ¹ If you wish to see the OSD screen (for setup, etc.), switch the TV input to analog. (With HDMI input, the OSD will not be displayed.)
- ² In order to listen to the audio from the TV that is connected to this receiver using an optical cable, first, switch to the **TV** input, then press **SIGNAL SEL** button repeatedly to choose the audio signal **01** (OPTICAL1) (see *Selecting the audio input signal* on page 33).

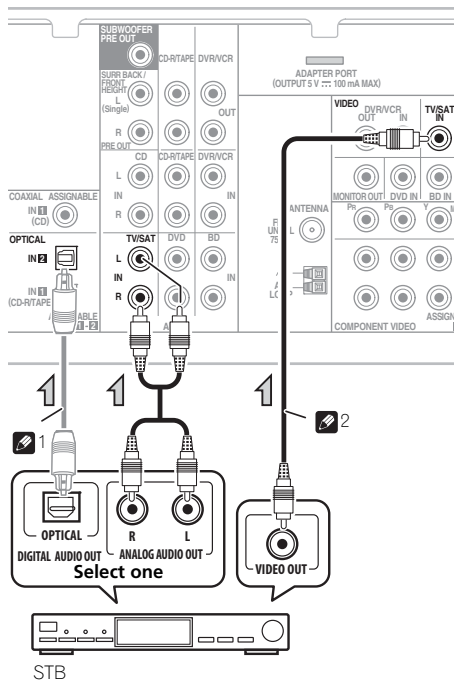
This diagram shows connections of a TV and DVD player (or other playback component) with no HDMI terminal to the receiver.



- 1 In order to listen to the audio from the TV that is connected to this receiver using an optical cable, first, switch to the **TV** input, then press **SIGNAL SEL** button repeatedly to choose the audio signal **01** (OPTICAL1) (see *Selecting the audio input signal* on page 33).
- 2 In order to listen to the audio from the DVD player that is connected to this receiver using an optical cable or a coaxial cable, first, switch to the **DVD** input, then press **SIGNAL SEL** button repeatedly to choose the audio signal **02** (OPTICAL2) or **C1** (COAXIAL1) (see *Selecting the audio input signal* on page 33).
- 3 If both TV and player has a component video jacks, you can connect these too. See *Using the component video jacks* on page 26 for more on this.

Connecting a satellite receiver or other digital set-top box

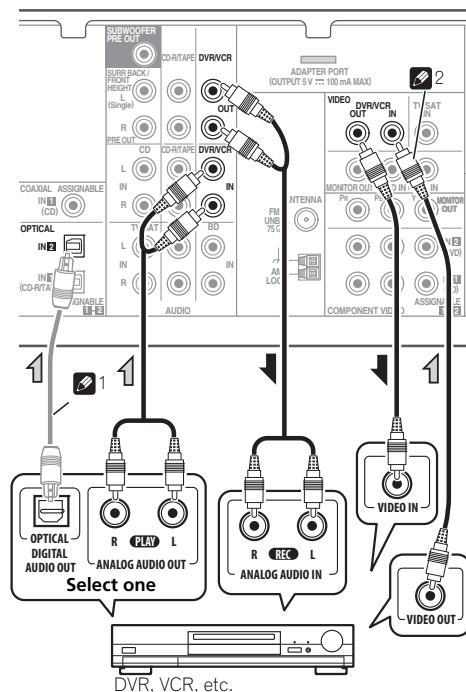
Satellite and cable receivers, and terrestrial digital TV tuners are all examples of so-called 'set-top boxes'.



Connecting an HDD/DVD recorder, VCR and other video sources

This receiver has audio/video inputs and outputs suitable for connecting analog or digital video recorders, including HDD/DVD recorders and VCRs.

- Only the signals that are input to the VIDEO IN terminal can be output from the VIDEO OUT terminal.
- Audio signals that are input through the digital terminal will not be output from the analog terminal.



Note

- In order to listen to the audio from the source component that is connected to this receiver using an optical cable, first, switch to the **TV** or **DVR** input, then press **SIGNAL SEL** button repeatedly to choose the audio signal **02** (OPTICAL2) (see *Selecting the audio input signal* on page 33).
- If the set-top box or video component also has an HDMI or a component video output, you can connect this too. See *Connecting using HDMI* on page 23 or *Using the component video jacks* on page 26 for more on this.

Using the component video jacks

Component video should deliver superior picture quality when compared to composite video. A further advantage (if your source and TV are both compatible) is progressive-scan video, which delivers a very stable, flicker-free picture. See the manuals that came with your TV and source component to check whether they are compatible with progressive-scan video.

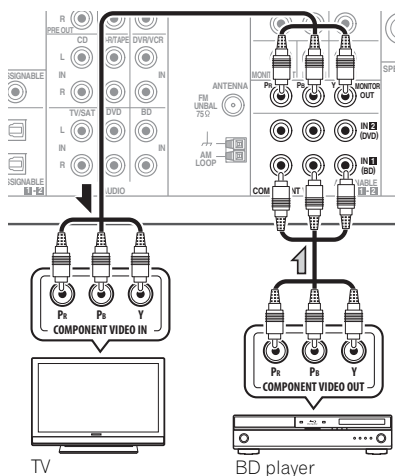
- **If necessary, assign the component video inputs to the input source you've connected.**

This only needs to be done if you didn't connect according to the following defaults:

- **COMPONENT VIDEO IN 1 – BD**
- **COMPONENT VIDEO IN 2 – DVD**

See *The Input Assign menu* on page 46 for more on this.

- For the audio connection, refer to *Connecting your component with no HDMI terminal* on page 24.

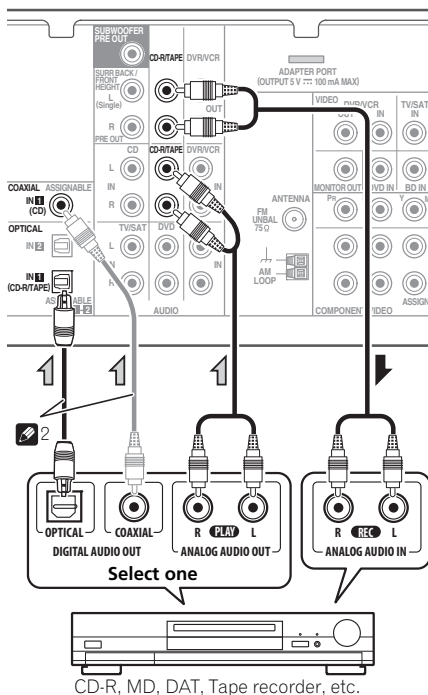


Important

- If you connect any source component to the receiver using a component video input, you must also have your TV connected to this receiver's **COMPONENT VIDEO OUT** jacks.

Connecting other audio components

The number and kind of connections depends on the kind of component you're connecting.¹ Follow the steps below to connect a CD-R, MD, DAT, tape recorder or other audio component.

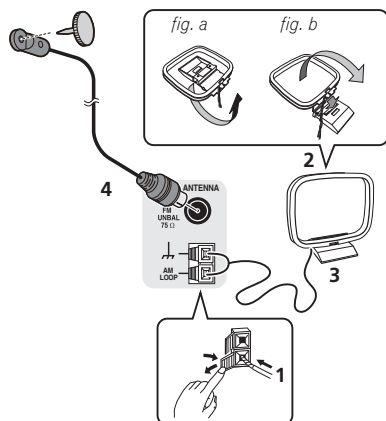


Note

- ¹ Note that you must connect digital components to analog audio jacks if you want to record to/from digital components (like an MD) to/from analog components.
- ² In order to listen to the audio from the CD player that is connected to this receiver using an optical cable or a coaxial cable, first, switch to the **CD** input, then press **SIGNAL SEL** button repeatedly to choose the audio signal **02** (OPTICAL2) or **C1** (COAXIAL1) (see *Selecting the audio input signal* on page 33).

Connecting antennas

Connect the AM loop antenna and the FM wire antenna as shown below. To improve reception and sound quality, connect external antennas (see *Using external antennas* below).



1 Push open the tabs, then insert one wire fully into each terminal, then release the tabs to secure the AM antenna wires.

2 Fix the AM loop antenna to the attached stand.

To fix the stand to the antenna, bend in the direction indicated by the arrow (*fig. a*) then clip the loop onto the stand (*fig. b*).

3 Place the AM antenna on a flat surface and in a direction giving the best reception.

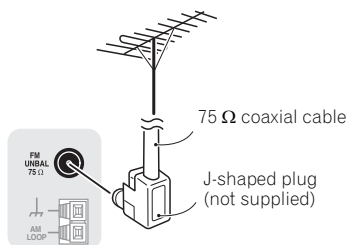
4 Connect the FM wire antenna into the FM antenna socket.

For best results, extend the FM antenna fully and fix to a wall or door frame. Don't drape loosely or leave coiled up.

Using external antennas

To improve FM reception

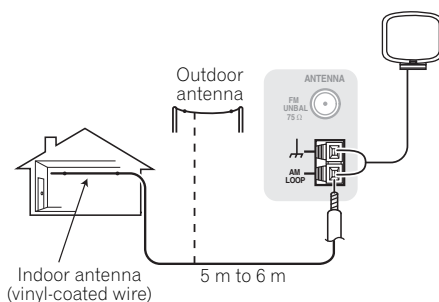
Connect an external FM antenna as shown below.



To improve AM reception

Connect a 5 m to 6 m length of vinyl-coated wire to the AM antenna terminal without disconnecting the supplied AM loop antenna.

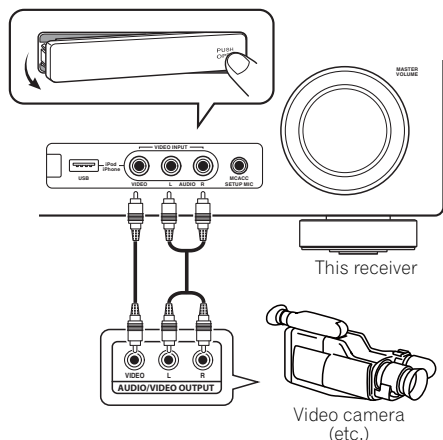
For the best possible reception, suspend horizontally outdoors.



Connecting to the front panel video terminal

Front video connections are accessed via the front panel using the **INPUT SELECTOR** or **VIDEO** button on the remote control. There are standard audio/video jacks. Hook them up the same way you made the rear panel connections.

- Push down on the **PUSH OPEN** tab to access the front video connections.



Plugging in the receiver

Only plug in after you have connected all your components to this receiver, including the speakers.

⚠ CAUTION

- Handle the power cord by the plug part. Do not pull out the plug by tugging the cord, and never touch the power cord when your hands are wet, as this could cause a short circuit or electric shock. Do not place the unit, a piece of furniture, or other object on the power cord or pinch the cord in any other way. Never make a knot in the cord or tie it with other cables. The power cords should be routed so that they are not likely to be stepped on. A damaged power cord can cause a fire or give you an electric shock. Check the power cord once in a while. If you find it damaged, ask your nearest Pioneer authorized independent service company for a replacement.
- The receiver should be disconnected by removing the mains plug from the wall socket when not in regular use, e.g., when on vacation.
- **Plug the AC power cord into a convenient AC power outlet.**

Chapter 4:

Basic Setup

Before setting up

This receiver allows you to adjust the system setup, and operate iPod/USB devices for playback, using the on-screen display (OSD) that is shown on the TV screen.

- The OSD will not appear if you have connected using the HDMI output to your TV. Use composite or component connections for system setup.

First, follow the procedure below to make sure that the OSD screen is displayed.

1 Switch on the receiver and your TV.

2 Switch the TV input to the input that connects this receiver to the TV through the corresponding composite or component cable.

For example, if you connected this receiver to the **VIDEO** jacks on your TV, make sure that the **VIDEO** input is now selected.

3 Press **RECEIVER** on the remote control, then press the **SETUP** button.

The System Setup menu of the OSD screen will be displayed on the TV. If nothing appears on the screen, try to change the TV format setting on the receiver (see below).

Changing the TV format setting

If the OSD screen is not displayed correctly, it may be that the TV system is set incorrectly for your country or region.

1 Switch the receiver into standby.

2 While holding down the **TUNE** button, press and hold the **STANDBY/ON** button for about two seconds.

The display shows the new setting (**PAL** or **NTSC**).

Automatically setting up for surround sound (MCACC)

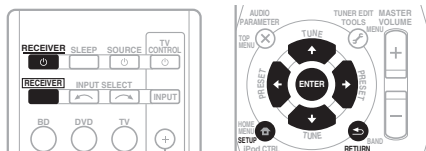
The Auto Multi-Channel Acoustic Calibration (MCACC) setup measures the acoustic characteristics of your listening area, taking into account ambient noise, speaker size and distance, and tests for both channel delay and channel level. After you have set up the microphone provided with your system, the receiver uses the information from a series of test tones to optimize the speaker settings and equalization for your particular room.

CAUTION

- The test tones used in the Auto MCACC Setup are output at high volume.

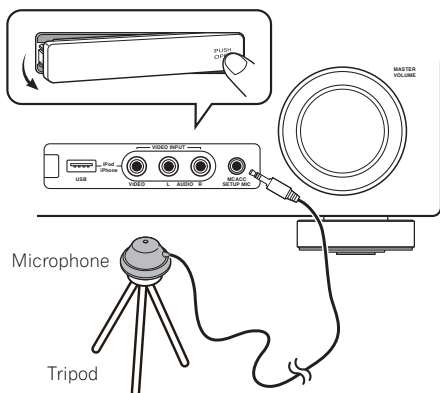
Important

- The Auto MCACC Setup will overwrite any existing speaker settings you've made.
- Before using the Auto MCACC Setup, the **iPod USB** function should not be selected as an input source.
- If you connected either the surround back speaker or the front height speaker, make sure that the Pre Out setting is correctly set before performing the Auto MCACC Setup (see page 47). (Here is an explanation using the OSD screen for a surround back speaker connection.)



- 1 Switch on the receiver and your TV.
- 2 Switch the TV input to the input that connects this receiver to the TV through the corresponding composite or component cable.
- 3 Connect the microphone to the MCACC SETUP MIC jack on the front panel.

Make sure there are no obstacles between the speakers and the microphone.



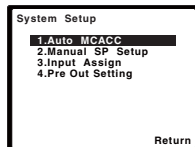
If you have a tripod, use it to place the microphone so that it's about ear level at your normal listening position. Otherwise, place the microphone at ear level using a table or a chair.

- 4 Press **RECEIVER** on the remote control, then press the **SETUP** button.

The System Setup menu appears on your TV. Use **↑/↓/←/→** and **ENTER** on the remote control to navigate through the screens and select menu items. Press **RETURN** to exit the current menu.

- Press **SETUP** at any time to exit the System Setup menu.¹

- 5 Select 'Auto MCACC' from the System Setup menu then press **ENTER**.²



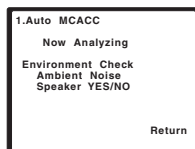
Try to be as quiet as possible after pressing **ENTER**. The system outputs a series of test tones to establish the ambient noise level.

- 6 Follow the instructions on-screen.

- Make sure the microphone is connected.
- Make sure the subwoofer is on and the volume is turned up.
- See below for notes regarding background noise and other possible interference.

- 7 Wait for the test tones to finish.

A progress report is displayed on-screen while the receiver outputs test tones to determine the speakers present in your setup. Try to be as quiet as possible while it's doing this.



- For correct speaker settings, do not adjust the volume during the test tones.

- 8 Confirm the speaker configuration.

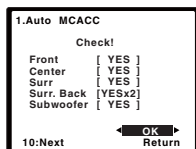
The configuration shown on-screen should reflect the actual speakers you have.

Note

¹ The screensaver automatically starts after three minutes of inactivity. If you cancel the Auto MCACC Setup at any time, the receiver automatically exits and no settings will be made.

² **MIC IN** blinks when the microphone is not connected to MCACC SETUP MIC.

- With error messages (such as **Too much ambient noise**) select **RETRY** after checking for ambient noise (see *Other problems when using the Auto MCACC Setup* on page 31).



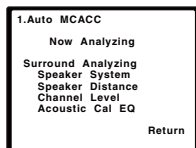
If the speaker configuration displayed isn't correct, use **↑/↓** to select the speaker and **←/→** to change the setting. When you're finished, go to the next step.

If you see an error message (**ERR**) in the right side column, there may be a problem with the speaker connection. If selecting **RETRY** doesn't fix the problem, turn off the power and check the speaker connections.

9 Make sure 'OK' is selected, then press ENTER.

If the screen in step 7 is left untouched for 10 seconds and the **ENTER** button is not pressed in step 8, the Auto MCACC setup will start automatically as shown below.

A progress report is displayed on-screen while the receiver outputs more test tones to determine the optimum receiver settings for channel level, speaker distance, and Acoustic Calibration EQ.



Again, try to be as quiet as possible while this is happening. It may take 1 to 3 minutes.

Note

- 1 Depending on the characteristics of your room, sometimes identical speakers with cone sizes of around 12 cm will end up with different size settings. You can correct the setting manually using the *Speaker Setting* on page 43.
- The subwoofer distance setting may be farther than the actual distance from the listening position. This setting should be accurate (taking delay and room characteristics into account) and generally does not need to be changed.

10 The Auto MCACC Setup has finished! You return to the System Setup menu.

The settings made in the Auto MCACC Setup should give you excellent surround sound from your system, but it is also possible to adjust these settings manually using the System Setup menu (starting on page 42).¹

Other problems when using the Auto MCACC Setup

If the room environment is not optimal for the Auto MCACC Setup (too much background noise, echo off the walls, obstacles blocking the speakers from the microphone) the final settings may be incorrect. Check for household appliances (air conditioner, fridge, fan, etc.), that may be affecting the environment and switch them off if necessary. If there are any instructions showing in the front panel display, please follow them.

- Some older TVs may interfere with the operation of the microphone. If this seems to be happening, switch off the TV when doing the Auto MCACC Setup.

Chapter 5:

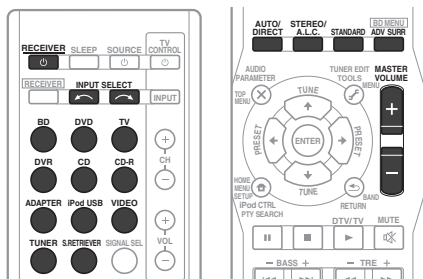
Listening to your system

**Important**

- The listening modes and many features described in this section may not be available depending on the current source, settings and status of the receiver.

Basic playback

Here are the basic instructions for playing a source (such as a DVD disc) with your home theater system.



- Make sure the setup microphone is disconnected.

1 Switch on your system components and receiver.

Start by switching on the playback component (for example a DVD player), your TV and subwoofer (if you have one), then the receiver (press **RECEIVER**).

2 Switch the TV input to the input that connects this receiver.

For example, if you connected this receiver to the **VIDEO** jacks on your TV, make sure that the **VIDEO** input is now selected.

3 Press input function buttons to select the input function you want to play.

The input of the receiver will switch over, and you will be able to operate other components using the remote control.

- The input source can also be selected by using **INPUT SELECT** buttons on the remote control, or by using the front panel **INPUT SELECTOR** dial.

4 Press AUTO/DIRECT to select 'AUTO SURROUND' and start playback of the source.¹

- If you selected the proper input source and there is still no sound, press **SIGNAL SEL** button to select the audio input signal for playback (page 33).

If you're playing a Dolby Digital or DTS surround sound DVD disc, with a digital audio connection, you should hear surround sound. If you're playing a stereo source or if the connection is an analog audio connection, you will only hear sound from the front left/right speakers in the default listening mode.

It is possible to check on the front panel display whether or not surround sound playback is being performed properly.

Note

- You may need to check the digital audio output settings on your DVD player or digital satellite receiver. It should be set to output Dolby Digital, DTS and 88.2 kHz/96 kHz PCM (2 channel) audio, and if there is an MPEG audio option, set this to convert the MPEG audio to PCM.
- Depending on your DVD player or source discs, you may only get digital 2 channel stereo and analog sound. In this case, the receiver must be set to a multichannel listening mode if you want multichannel surround sound.

When using a surround back speaker, **DOD+PLiix** is displayed when playing Dolby Digital 5.1-channel signals, and **DTS+NEO:6** is displayed when playing DTS 5.1-channel signals.

When not using a surround back speaker, **DOD** is displayed when playing Dolby Digital signals.

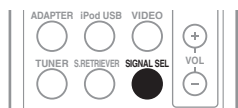
If the display does not correspond to the input signal and listening mode, check the connections and settings.

5 Use the volume control to adjust the volume level.

Turn down the volume of your TV so that all sound is coming from the speakers connected to this receiver.

Selecting the audio input signal

The audio input signal can be selected for each input source. Once it is set, the audio input that was selected will be applied whenever you select the input source using the input function buttons.¹



- Press **SIGNAL SEL** to select the audio input signal corresponding to the source component.

When **DIGITAL (C1/O1/O2)** or **HDMI (H)** is selected and the selected audio input is not provided, **A** (analog) is automatically selected.

Each press cycles through the following:

- **A** – Selects the analog inputs.
- **DIGITAL** – Selects the digital input. The coaxial 1 input is selected for **C1**, and the optical 1 or 2 audio input is selected for **O1** or **O2**.
- **HDMI** – Selects an HDMI signal. **H** can be selected for BD, DVD, TV/SAT or DVR/VCR input. For other inputs, **HDMI** cannot be selected.²

When set to **DIGITAL** or **HDMI**, **DO** lights when a Dolby Digital signal is input, and **DTS** lights when a DTS signal is input.

When the **HDMI** is selected, the **A** and **DIGITAL** indicators are off (see page 12).

Auto playback

The simplest, most direct listening option is the Auto Surround feature. With this, the receiver automatically detects what kind of source you're playing and selects multichannel or stereo playback as necessary.³



- While listening to a source, press **AUTO/DIRECT**⁴ for auto playback of a source.

Press repeatedly until **AUTO SURROUND** shows briefly in the display (it will then show the decoding or playback format). Check the digital format indicators in the display to see how the source is being processed.

Note

- 1 When digital input (optical or coaxial) is selected, this receiver can only play back Dolby Digital, PCM (32 kHz to 96 kHz) and DTS (including DTS 96 kHz / 24 bit) digital signal formats. The compatible signals via the HDMI terminals are: Dolby Digital, DTS, SACD (DSD 2 ch), PCM (32 kHz to 192 kHz sampling frequencies), Dolby TrueHD, Dolby Digital Plus, DTS-EXPRESS, DTS-HD Master Audio and DVD Audio (including 192 kHz). With other digital signal formats, set to **A** (analog).
 - You may get digital noise when a LD or CD player compatible with DTS is playing an analog signal. To prevent noise, make the proper digital connections (page 23) and set the signal input to **C1/O1/O2 (DIGITAL)**.
 - Some DVD players don't output DTS signals. For more details, refer to the instruction manual supplied with your DVD player.
- 2 When the **HDMI** option in *Setting the Audio options* on page 39 is set to **THRU**, the sound will be heard through your TV, not from this receiver.
- 3 Stereo surround (matrix) formats are decoded accordingly using **NEO:6 CINEMA** or **DOLBY PLiix MOVIE** (see *Listening in surround sound* above for more on these decoding formats).
- 4 For more options using this button, see *Using Stream Direct* on page 36.

Listening in surround sound

Using this receiver, you can listen to any source in surround sound. However, the options available will depend on your speaker setup and the type of source you're listening to.

The following modes provide basic surround sound for stereo and multichannel sources.



- **While listening to a source, press STANDARD.**

If the source is Dolby Digital, DTS, or Dolby Surround encoded, the proper decoding format will automatically be selected and shows in the display.

When the surround back and front height speaker are not connected.

With two channel sources, you can select from:

- **DOLBY PLII MOVIE** – Up to 5.1 channel sound, especially suited to movie sources
- **DOLBY PLII MUSIC**¹ – Up to 5.1 channel sound, especially suited to music sources
- **DOLBY PLII GAME** – Up to 5.1 channel sound, especially suited for video games
- **NEO:6 CINEMA** – Up to 5.1 channel sound, especially suited to movie sources
- **NEO:6 MUSIC** – Up to 5.1 channel sound, especially suited to music sources²
- **DOLBY PRO LOGIC** – 4.1 channel surround sound

When the front height speaker is connected.

With two channel sources, you can select from:

- **DOLBY PLII MOVIE** – See above
- **DOLBY PLII MUSIC** – See above
- **DOLBY PLII GAME** – See above
- **DOLBY PLIIz HEIGHT** – Up to 7.1 channel sound³
- **NEO:6 CINEMA** – See above
- **NEO:6 MUSIC** – See above
- **DOLBY PRO LOGIC** – See above
- **Straight Decode** – Plays back without the **DOLBY PLII**, **DOLBY PLIIz HEIGHT** and **NEO:6** effects.

With multichannel sources, you can select from:

- **DOLBY PLIIz HEIGHT** – Up to 7.1 channel sound³
- **Straight Decode** – Plays back without the **DOLBY PLIIz HEIGHT** effects.

When the surround back speaker is connected.⁴

If you connected surround back speakers, see also *Using surround back channel processing* on page 38.

With two channel sources, you can select from:

- **DOLBY PLIIX MOVIE** – Up to 7.1 channel sound, especially suited to movie sources
- **DOLBY PLIIX MUSIC** – Up to 7.1 channel sound, especially suited to music sources⁵
- **DOLBY PLIIX GAME** – Up to 7.1 channel sound, especially suited to video games
- **NEO:6 CINEMA** – Up to 6.1 channel sound, especially suited to movie sources

Note

¹ When listening to 2-channel sources in **DOLBY PLII MUSIC** mode, there are three further parameters you can adjust: **C.WIDTH**, **DIMEN.**, and **PNRM.**. See *Setting the Audio options* on page 39 to adjust them.

² When listening to 2-channel sources in **NEO:6 CINEMA** or **NEO:6 MUSIC** mode, you can also adjust the **C.IMG** effect (see *Setting the Audio options* on page 39).

³ When listening to 2-channel sources in **DOLBY PLIIz HEIGHT** mode, you can also adjust the **H.GAIN** effect (see *Setting the Audio options* on page 39).

⁴ • If surround back channel processing (page 38) is switched off, or the surround back speakers are set to **NO**, **DOLBY PLIIX** becomes **DOLBY PLII** (5.1 channel sound).

• In modes that give 6.1 channel sound, the same signal is heard from both surround back speakers.

⁵ When listening to 2-channel sources in **DOLBY PLIIX MUSIC** mode, there are three further parameters you can adjust: **C.WIDTH**, **DIMEN.**, and **PNRM.**. See *Setting the Audio options* on page 39 to adjust them.

- **NEO:6 MUSIC** – Up to 6.1 channel sound, especially suited to music sources¹
- **DOLBY PRO LOGIC** – 4.1 channel surround sound (sound from the surround speakers is mono)

With multichannel sources, if you have connected surround back speaker(s) and have selected **SB ON**, you can select (according to format):

- **DOLBY PLIIX MOVIE** – See above (only available when you're using two surround back speakers)
- **DOLBY PLIIX MUSIC** – See above
- **DOLBY DIGITAL EX** – Creates surround back channel sound for 5.1 channel sources and provides pure decoding for 6.1 channel sources (like Dolby Digital Surround EX)
- **DTS-ES** – Allows you to hear 6.1 channel playback with DTS-ES encoded sources
- **DTS NEO:6** – Allows you to hear 6.1 channel playback with DTS encoded sources

Using the Advanced surround effects

The Advanced surround feature creates a variety of surround effects. Try different modes with various soundtracks to see which you like.



- **Press ADV SURR repeatedly to select a listening mode.**
- **ACTION** – Designed for action movies with dynamic soundtracks.
- **DRAMA** – Designed for movies with lots of dialog.
- **ENT.SHOW** – Suitable for musical sources.
- **ADVANCED GAME** – Suitable for video games.
- **SPORTS** – Suitable for sports programs.

- **CLASSICAL** – Gives a large concert hall-type sound.
- **ROCK/POP** – Creates a live concert sound for rock and/or pop music.
- **UNPLUGGED** – Suitable for acoustic music sources.
- **EXT.STEREO** – Gives multichannel sound to a stereo source, using all of your speakers.

Listening in stereo

When you select **STEREO** you will hear the source through just the front left and right speakers (and possibly your subwoofer depending on your speaker settings). Dolby Digital and DTS multichannel sources are downmixed to stereo.

In the Auto level control stereo mode (ALC), this unit equalizes playback sound levels if each sound level varies with the music source recorded in a portable audio player.



- **While listening to a source, press STEREO/A.L.C. for stereo playback.** Press repeatedly to switch between:

- **STEREO** – The audio is heard with your surround settings and you can still use the Midnight, Loudness, Phase Control, Sound Retriever and Tone functions.
- **ALC** – Listening in Auto level control stereo mode.
- **F.S.S.ADVANCE** – See *Using Front Stage Surround Advance* below for more on this.

Note

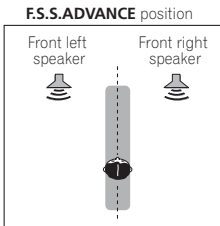
¹ When listening to 2-channel sources in **NEO:6 CINEMA** or **NEO:6 MUSIC** mode, you can also adjust the **C.IMG** effect (see *Setting the Audio options* on page 39).

Using Front Stage Surround Advance

The Front Stage Surround Advance function allows you to create natural surround sound effects using just the front speakers and the subwoofer.



- **While listening to a source, press STEREO/A.L.C. to select Front Stage Surround Advance modes.**
 - **STEREO** – See *Listening in stereo* above for more on this.
 - **ALC** – See *Listening in stereo* above for more on this.
 - **F.S.S.ADVANCE** – Use to provide a rich surround sound effect directed to the center of where the front left and right speakers sound projection area converges.



Using Stream Direct

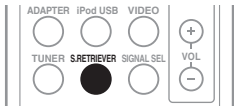
Use the Stream Direct modes when you want to hear the truest possible reproduction of a source. All unnecessary signal processing is bypassed.



- **While listening to a source, press AUTO/DIRECT to select Stream Direct mode.**
- **AUTO SURROUND** – See *Auto playback* on page 33.
- **DIRECT** – Sources are heard according to the settings made in the Surround Setup (speaker setting, channel level, speaker distance), as well as with dual mono settings.¹ You will hear sources according to the number of channels in the signal.
- **PURE DIRECT** – Analog and PCM sources are heard without any digital processing.

Using the Sound Retriever

When audio data is removed during the compression process, sound quality often suffers from an uneven sound image. The Sound Retriever feature employs new DSP technology that helps bring CD quality sound back to compressed 2-channel audio by restoring sound pressure and smoothing jagged artifacts left over after compression.²



- **Press S.RETRIEVER to switch the sound retriever on or off.**

Note

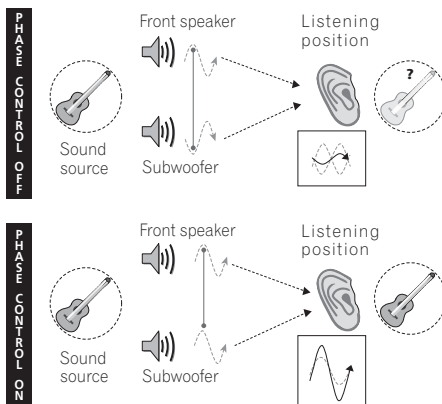
¹ In the **DIRECT** mode, Phase Control, Acoustic Calibration EQ, Sound Delay, Auto Delay, LFE Attenuate and Center image functions are available.

² The Sound Retriever is only applicable to 2-channel sources.

Better sound using Phase Control

This receiver's Phase Control feature uses phase correction measures to make sure your sound source arrives at the listening position in phase, preventing unwanted distortion and/or coloring of the sound (see illustration below).

During multichannel playback, LFE (Low-Frequency Effects) signals as well as low-frequency signals in each channel are assigned to the subwoofer or other the subwoofer and the most appropriate speaker. At least in theory, however, this type of processing involves a group delay that varies with frequency, resulting in phase distortion where the low-frequency sound is delayed or muffled by the conflict with other channels. With the Phase Control mode switched on, this receiver can reproduce powerful bass sound without deteriorating the quality of the original sound (see illustration below).



Phase Control technology provides coherent sound reproduction through the use of phase matching¹ for an optimal sound image at your listening position. The default setting is on and we recommend leaving Phase Control switched on for all sound sources.



- Press **RECEIVER**, then press **PHASE** to switch the Phase Control on or off.

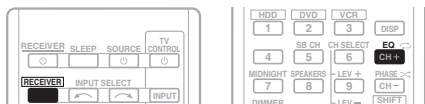
Note

¹ Phase matching is a very important factor in achieving proper sound reproduction. If two waveforms are 'in phase', they crest and trough together, resulting in increased amplitude, clarity and presence of the sound signal. If a crest of a wave meets a trough (as shown in the upper section of the diagram above) then the sound will be 'out of phase' and an unreliable sound image will be produced.

- If your subwoofer has a phase control switch, set it to the plus (+) sign (or 0°). However, the effect you can actually feel when **PHASE CONTROL** is set to **ON** on this receiver depends on the type of your subwoofer. Set your subwoofer to maximize the effect. It is also recommended you try changing the orientation or the place of your subwoofer.
- Set the built-in lowpass filter switch of your subwoofer to OFF. If this cannot be done on your subwoofer, set the cutoff frequency to a higher value.
- If the speaker distance is not properly set, you may not have a maximized **PHASE CONTROL** effect.
- The **PHASE CONTROL** mode cannot be set to **ON** in the following cases:
 - When the **PURE DIRECT** mode is switched on.
 - When the headphones are connected.

Listening with Acoustic Calibration EQ

You can listen to sources using the Acoustic Calibration Equalization set in *Automatically setting up for surround sound (MCACC)* on page 29. Refer to these pages for more on Acoustic Calibration Equalization.



- While listening to a source, press **RECEIVER**, then press **EQ** to switch the Acoustic Calibration EQ on or off.

The MCACC indicator on the front panel lights when Acoustic Calibration EQ is active.¹

Using surround back channel processing

You can have the receiver automatically use 6.1 or 7.1 decoding for 6.1 encoded sources (for example, Dolby Digital EX or DTS-ES), or you can choose to always use 6.1 or 7.1 decoding (for example, with 5.1 encoded material). With 5.1 encoded sources, a surround back channel will be generated, but the material may sound better in the 5.1 format for which it was originally encoded (in which case, you can simply switch surround back channel processing off).

- With a 7.1-channel surround system, audio signals that have undergone matrix decoding processing through surround back channel processing to which the Up Mix function is added are output from the surround back speakers.



- Press **RECEIVER**, then press **SB CH** repeatedly to cycle the surround back channel options.

Each press cycles through the options as follows:

- **SB ON** – Matrix decoding processing for generating the surround back component from the surround component is turned on.
- **SB AUTO** – Matrix decoding processing for generating the surround back component from the surround component is switched automatically. Matrix decoding processing is only performed when surround back channel signals are detected in the input signals.
- **SB OFF** – Matrix decoding processing for generating the surround back component from the surround component is turned off.

Note

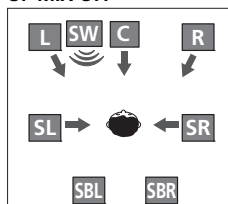
¹ You can't use Acoustic Calibration EQ with Stream Direct mode and it has no effect with headphones.

Setting the Up Mix function

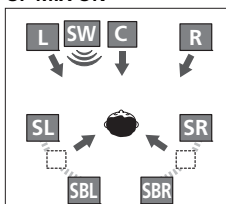
In a 7.1-channel surround system with surround speakers placed directly at the sides of the listening position, the surround sound of 5.1-channel sources is heard from the side. The Up Mix function mixes the sound of the surround speakers with the surround back speakers so that the surround sound is heard from diagonally to the rear as it should be.¹

- Using the Up Mix function is effective when the speakers in the 7.1-channel surround system are set up as recommended in the example on page 16.
- Depending on the positions of the speakers and the sound source, in some cases it may not be possible to achieve good results. In this case, set the setting to **OFF**.

UP MIX OFF



UP MIX ON



- 1 Switch the receiver into standby.
- 2 While holding down the **PRESET** ➡ on the front panel, and hold the **STANDBY/ON** for about two seconds.
UP MIX: OFF appears and the Up Mix function turns off. If you want to turn this function on, perform steps 1 and 2 again.

- When set to **ON**, the  (Up Mix) indicator on the front panel lights.

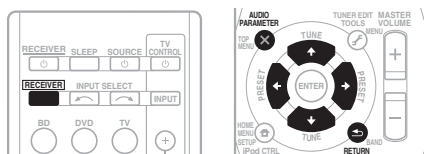
Setting the Audio options

There are a number of additional sound settings you can make using the **AUDIO PARAMETER** menu. The defaults, if not stated, are listed in bold.



Important

- Note that if a setting doesn't appear in the **AUDIO PARAMETER** menu, it is unavailable due to the current source, settings and status of the receiver.



- 1 Press **RECEIVER** on the remote control, then press **AUDIO PARAMETER** button.
- 2 Use **↑/↓** to select the setting you want to adjust.
Depending on the current status/mode of the receiver, certain options may not be able to be selected. Check the table below for notes on this.
- 3 Use **←/→** to set it as necessary.
See the table below for the options available for each setting.
- 4 Press **RETURN** to confirm and exit the menu.

Note

- 1 Set to **ON** regardless of this setting when playing DTS-HD signals.
 - May automatically be set to **OFF** even when set to **ON**, depending on the input signal and listening mode.

Setting	What it does	Option(s)
EQ (Acoustic Calibration EQ)	Switches on/off the effect of Acoustic Calibration EQ.	ON <i>OFF</i>
S.DELAY (Sound Delay)	Some monitors have a slight delay when showing video, so the soundtrack will be slightly out of sync with the picture. By adding a bit of delay, you can adjust the sound to match the presentation of the video.	0.0 to 9.0 (frames) <i>1 second = 25 frames (PAL)/30 frames (NTSC)</i> Default: 0.0
MIDNIGHT^a	Allows you to hear effective surround sound of movies at low volumes.	M/L OFF <i>MIDNIGHT</i>
LOUDNESS^a	Used to get good bass and treble from music sources at low volumes.	<i>LOUDNESS</i>
S.RTV^b (Sound Retriever)	When audio data is removed during the WMA/MP3 ^c compression process, sound quality often suffers from an uneven sound image. The Sound Retriever feature employs new DSP technology that helps bring CD quality sound back to compressed 2-channel audio by restoring sound pressure and smoothing jagged artifacts left over after compression.	OFF <i>ON</i>
DUAL MONO^d	Specifies how dual mono encoded Dolby Digital soundtracks should be played.	CH1 – Channel 1 is heard only <i>CH2</i> – Channel 2 is heard only <i>CH1 CH2</i> – Both channels heard from front speakers
DRC (Dynamic Range Control)	Adjusts the level of dynamic range for movie soundtracks optimized for Dolby Digital, DTS, Dolby Digital Plus, Dolby TrueHD, DTS-HD and DTS-HD Master Audio (you may need to use this feature when listening to surround sound at low volumes).	AUTO^e <i>MAX</i> <i>MID</i> <i>OFF</i>
LFE ATT (LFE Attenuate)	Some Dolby Digital and DTS audio sources include ultra-low bass tones. Set the LFE attenuator as necessary to prevent the ultra-low bass tones from distorting the sound from the speakers. The LFE is not limited when set to 0 dB, which is the recommended value. When set to –15 dB, the LFE is limited by the respective degree. When OFF is selected, no sound is output from the LFE channel.	0 (0 dB) <i>5</i> (–5 dB) <i>10</i> (–10 dB) <i>15</i> (–15 dB) <i>20</i> (–20 dB) <i>** (OFF)</i>
SACD G.^f (SACD Gain)	Brings out detail in SACDs by maximizing the dynamic range (during digital processing).	0 (dB) <i>+6</i> (dB)

Setting	What it does	Option(s)
HDMI (HDMI Audio)	Specifies the routing of the HDMI audio signal out of this receiver (<i>amp</i>) or <i>through</i> to a TV. When THRU is selected, no sound is output from this receiver.	AMP <i>THRU</i>
A.DLY (Auto Delay)	This feature automatically corrects the audio-to-video delay between components connected with an HDMI cable. The audio delay time is set depending on the operational status of the display connected with an HDMI cable. The video delay time is automatically adjusted according to the audio delay time. ^g	OFF <i>ON</i>
C.WIDTH^h (Center Width) (Applicable only when using a center speaker)	Spreads the center channel between the front right and left speakers, making it sound wider (higher settings) or narrower (lower settings).	0 to 7 Default: 3
DIMEN.^h (Dimension)	Adjusts the surround sound balance from front to back, making the sound more distant (minus settings), or more forward (positive settings).	-3 to +3 Default: 0
PNRM.^h (Panorama)	Extends the front stereo image to include surround speakers for a 'wraparound' effect.	OFF <i>ON</i>
C.IMGⁱ (Center image) (Applicable only when using a center speaker)	Adjust the center image to create a wider stereo effect with vocals. Adjust the effect from 0 (all center channel sent to front right and left speakers) to 10 (center channel sent to the center speaker only).	0 to 10 Default: 3 (NEO:6 MUSIC), 10 (NEO:6 CINEMA)
H.GAIN (Height Gain)	Adjusts the output from the front height speaker when listening in DOLBY PLIIz HEIGHT mode. If set to H , the sound from the top will be more emphasized.	<i>L (Low)</i> M (Mid) <i>H (High)</i>

- You can change the MIDNIGHT/LOUDNESS options at any time by using **MIDNIGHT** button.
- You can change the Sound Retriever feature at any time by using **S.RETRIEVER** button.
- WMA and MP3 playback available only via iPod/USB input.
- This setting works only with dual mono encoded Dolby Digital and DTS soundtracks.
- The initial set **AUTO** is only available for Dolby TrueHD signals. Select **MAX** or **MID** for signals other than Dolby TrueHD.
- You shouldn't have any problems using this with most SACD discs, but if the sound distorts, it is best to switch the gain setting back to **0** dB.
- This feature is only available when the connected display supports the automatic audio/video synchronizing capability ('lip-sync') for HDMI. If you find the automatically set delay time unsuitable, set **A.DLY** to **OFF** and adjust the delay time manually. For more details about the lip-sync feature of your display, contact the manufacturer directly.
- Only available with 2-channel sources in **DOLBY PLII MUSIC** mode.
- Only when listening to 2-channel sources in **NEO:6 CINEMA** and **NEO:6 MUSIC** mode.

Chapter 6:

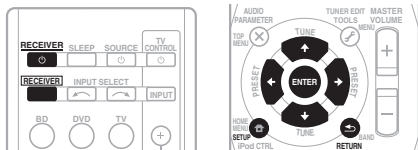
The System Setup menu

Using the System Setup menu

The following section shows you how to make detailed settings to specify how you're using the receiver, and also explains how to fine-tune individual speaker system settings to your liking.

**Important**

- The OSD will not appear if you have connected using the HDMI output to your TV. Use component or composite connections for system setup.



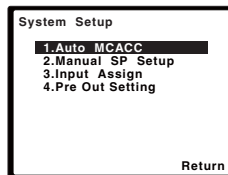
1 Switch on the receiver and your TV. Use the **RECEIVER** button to switch on.¹

2 Switch the TV input to the input that connects this receiver to the TV through the corresponding composite or component cable.

3 Press **RECEIVER on the remote control, then press the **SETUP** button.²**

The System Setup menu appears on your TV. Use **↑/↓/←/→** and **ENTER** on the remote control to navigate through the screens and select menu items. Press **RETURN** to confirm and exit the current menu.

4 Select the setting you want to adjust.



- Auto MCACC** – This is a quick and effective automatic surround setup (see *Automatically setting up for surround sound (MCACC)* on page 29).
- Manual SP Setup** – Specify the size, number, distance and overall balance of the speakers you've connected (see *Manual speaker setup* on page 43).
- Input Assign** – Specify what you've connected to the component video inputs (see *The Input Assign menu* on page 46).
- Pre Out Setting** – Specify how to use the **PRE OUT** outputs (see *The Pre Out Setting* on page 47).

Note

- If headphones are connected to the receiver, disconnect them.
- You can't use the System Setup menu when the iPod/USB input is selected.
 - Press **SETUP** at any time to exit the System Setup menu.

Manual speaker setup

This receiver allows you to make detailed settings to optimize the surround sound performance. You only need to make these settings once (unless you change the placement of your current speaker system or add new speakers).

These settings are designed to fine-tune your system, but if you're satisfied with the settings made in *Automatically setting up for surround sound (MCACC)* on page 29, it isn't necessary to make all of these settings.

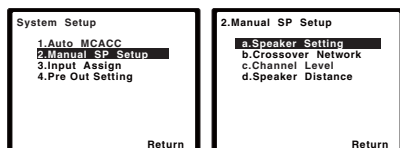
CAUTION

- The test tones used in the System Setup are output at high volume.

Important

- Depending on the **Pre Out** setting, there will be differences in the speaker items that can be adjusted. The OSD display for these operating instructions is an example of when the **Pre Out** setting is set to **Surr.** **Back.**

1 Select 'Manual SP Setup' then press ENTER.



2 Select the setting you want to adjust.

If you are doing this for the first time, you may want to adjust these settings in order:

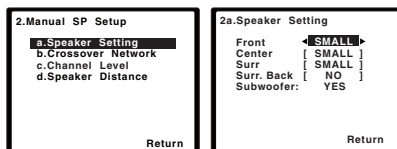
- Speaker Setting** – Specify the size and number of speakers you've connected (see below).
- Crossover Network** – Specify which frequencies will be sent to the subwoofer (page 45).
- Channel Level** – Adjust the overall balance of your speaker system (page 45).
- Speaker Distance** – Specify the distance of your speakers from the listening position (page 46).

3 Make the adjustments necessary for each setting, pressing RETURN to confirm after each screen.

Speaker Setting

Use this setting to specify your speaker configuration (size, number of speakers). It is a good idea to make sure that the settings made in *Automatically setting up for surround sound (MCACC)* on page 29 are correct.

1 Select 'Speaker Setting' from the Manual SP Setup menu.



2 Choose the set of speakers that you want to set then select a speaker size.

Use **←/→** to select the size (and number) of each of the following speakers:

- Front** – Select **LARGE** if your front speakers reproduce bass frequencies effectively, or if you didn't connect a subwoofer. Select **SMALL** to send the bass frequencies to the subwoofer.¹

Note

¹ If you select **SMALL** for the front speakers, the subwoofer will automatically be fixed to **YES**. Also, the center, surround, surround back and front height speakers can't be set to **LARGE** if the front speakers are set to **SMALL**. In this case, all bass frequencies are sent to the subwoofer.

- **Center** – Select **LARGE** if your center speaker reproduces bass frequencies effectively, or select **SMALL** to send bass frequencies to the other speakers or subwoofer. If you didn't connect a center speaker, choose **NO** (the center channel is sent to the other speakers).
- **Front Height**¹ – Select **LARGE** if your front height speakers reproduce bass frequencies effectively. Select **SMALL** to send bass frequencies to the other speakers or subwoofer. If you didn't connect front height speakers choose **NO**.
- **Surr** – Select **LARGE** if your surround speakers reproduce bass frequencies effectively. Select **SMALL** to send bass frequencies to the other speakers or subwoofer. If you didn't connect surround speakers choose **NO** (the sound of the surround channels is sent to the other speakers).
- **Surr. Back**² – Select the number of surround back speakers you have (one, two or none).³ Select **LARGE** if your surround back speakers reproduce bass frequencies effectively. Select **SMALL** to send bass frequencies to the other speakers or subwoofer. If you didn't connect surround back speakers choose **NO**.
- **Subwoofer** – LFE signals and bass frequencies of channels set to **SMALL** are output from the subwoofer when **YES** is selected (see notes below). Choose the **PLUS** setting if you want the subwoofer to output bass sound continuously or you want deeper bass (the bass frequencies that would normally come out the front and center speakers are also routed to the subwoofer). If you did not connect a subwoofer choose **NO** (the bass frequencies are output from other speakers).

3 When you're finished, press RETURN.

You return to the Manual SP Setup menu.



Tip

- If you have a subwoofer and like lots of bass, it may seem logical to select **LARGE** for your front speakers and **PLUS** for the subwoofer. This may not, however, yield the best bass results. Depending on the speaker placement of your room you may actually experience a decrease in the amount of bass due to low frequency cancellations. In this case, try changing the position or direction of speakers. If you can't get good results, listen to the bass response with it set to **PLUS** and **YES** or the front speakers set to **LARGE** and **SMALL** alternatively and let your ears judge which sounds best. If you're having problems, the easiest option is to route all the bass sounds to the subwoofer by selecting **SMALL** for the front speakers.

Note

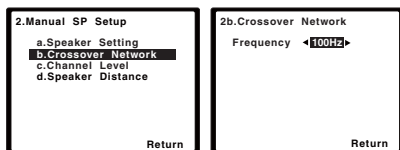
- 1 • You can only adjust the **Front Height** setting when **Pre Out Setting** is set to **Height**.
 - If the surround speakers are set to **NO**, the front height speakers will automatically be set to **NO**.
- 2 You can only adjust the **Surr. Back** setting when **Pre Out Setting** is set to **Surr. Back**.
- 3 • If the surround speakers are set to **NO**, the surround back speakers will automatically be set to **NO**.
 - If you select one surround back speaker only, make sure that additional amplifier is hooked up to the **PRE OUT L (Single)** terminal.

Crossover Network

- Default setting: **100Hz**

This setting decides the cutoff between bass sounds playing back from the speakers selected as **LARGE**, or the subwoofer, and bass sounds playing back from those selected as **SMALL**. It also decides where the cutoff will be for bass sounds in the LFE channel.¹

1 Select 'Crossover Network' from the Manual SP Setup menu.



2 Choose the frequency cutoff point.

Frequencies below the cutoff point will be sent to the subwoofer (or **LARGE** speakers).

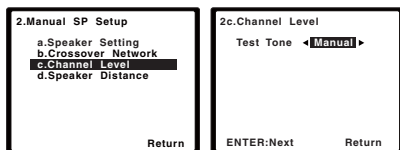
3 When you're finished, press RETURN.

You return to the Manual SP Setup menu.

Channel Level

Using the channel level settings, you can adjust the overall balance of your speaker system, an important factor when setting up a home theater system.

1 Select 'Channel Level' from the Manual SP Setup menu.

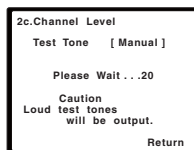


2 Select a setup option.

- **Manual** – Move the test tone manually from speaker to speaker and adjust individual channel levels.
- **Auto** – Adjust channel levels as the test tone moves from speaker to speaker automatically.

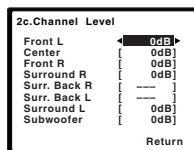
3 Confirm your selected setup option.

The test tones will start after you press **ENTER**. After the volume increases to the reference level, test tones will be output.



4 Adjust the level of each channel using ←/→.

If you selected **Manual**, use ↑/↓ to switch speakers. The **Auto** setup will output test tones in the order shown on-screen:



Adjust the level of each speaker as the test tone is emitted.²

5 When you're finished, press RETURN.

You return to the Manual SP Setup menu.

Note

¹ For more on selecting the speaker sizes, see *Speaker Setting* on page 43.

² • If you are using a Sound Pressure Level (SPL) meter, take the readings from your main listening position and adjust the level of each speaker to 75 dB SPL (C-weighting/slow reading).

• The subwoofer test tone is output at low volumes. You may need to adjust the level after testing with an actual soundtrack.

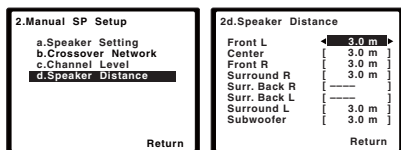
**Tip**

- You can change the channel levels at any time by press **RECEIVER**, then press **CH SELECT** and **LEV +/-** on the remote control. You can also press **CH SELECT** and use **↑/↓** to select the channel, and then use **←/→** to adjust the channel levels.

Speaker Distance

For good sound depth and separation from your system, you need to specify the distance of your speakers from the listening position. The receiver can then add the proper delay needed for effective surround sound.

1 Select 'Speaker Distance' from the Manual SP Setup menu.



2 Adjust the distance of each speaker using **←/→**.

You can adjust the distance of each speaker in 0.1 m increments.

3 When you're finished, press **RETURN**.

You return to the Manual SP Setup menu.

The Input Assign menu

You only need to make settings in the Input Assign menu if you didn't hook up your equipment according to the default settings for the component video inputs.

- Default settings:

Component 1 – BD

Component 2 – DVD

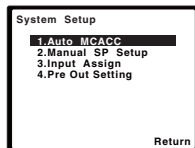
**Important**

- If you connect any source component to the receiver using a component video input, you should also have your TV connected to this receiver's **COMPONENT VIDEO OUT** output (down converting component video is not possible after assigning an input).

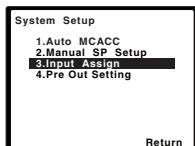
If you didn't make component video connections according to the defaults above, you must assign the numbered input to the component you've connected (or else you may see the video signal of a different component). For more on this, see *Using the component video jacks* on page 26.

1 Press **RECEIVER** on the remote control, then press the **SETUP** button.

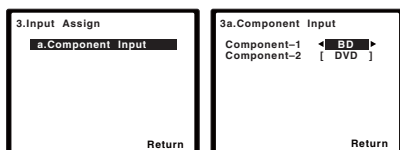
An on-screen display (OSD) appears on your TV. Use **↑/↓/←/→** and **ENTER** on the remote control to navigate through the screens and select menu items. Press **RETURN** to confirm and exit the current menu.



2 Select 'Input Assign' from the System Setup menu.



3 Select 'Component Input' from the Input Assign menu.



4 Select the number of the component video input to which you've connected your video component.

The numbers correspond with the numbers beside the inputs on the rear of the receiver.

5 Select the component that corresponds with the one you connected to that input.

Select between **BD**, **DVD**, **TV**, **DVR** or **OFF**.

- Use **←/→** and **ENTER** to do this.
- If you assign a component input to a certain function, any component inputs previously assigned to that function will automatically be switched off.
- Make sure you have connected the audio from the component to the corresponding inputs on the rear of the receiver.

6 When you're finished, press RETURN.

You return to the Input Assign menu.

- For the assignment of the digital signal inputs, see *Selecting the audio input signal* on page 33.

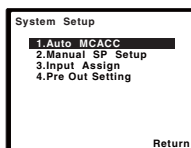
The Pre Out Setting

Specify either using the surround back speaker or the front height speaker connection with the **PRE OUT** outputs. An additional amplifier is required for the speaker connection.

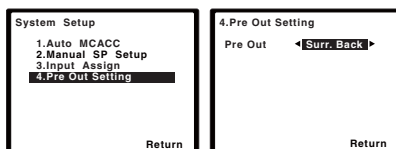
- Default setting: **Surr. Back**

1 Press **RECEIVER** on the remote control, then press the **SETUP** button.

An on-screen display (OSD) appears on your TV. Use **↑/↓/←/→** and **ENTER** on the remote control to navigate through the screens and select menu items. Press **RETURN** to confirm and exit the current menu.



2 Select 'Pre Out Setting' from the System Setup menu.



3 Select which speaker to connect to the PRE OUT outputs using **←/→**.

- **Surr. Back** – Connect the surround back speaker.
- **Height** – Connect the front height speaker.

4 When you're finished, press RETURN.

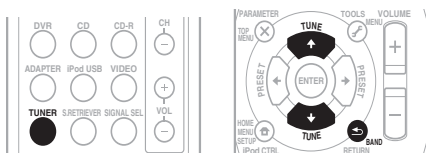
You return to the System Setup menu.

Chapter 7:

Using the tuner

Listening to the radio

The following steps show you how to tune in to FM and AM radio broadcasts using the automatic (search) and manual (step) tuning functions. Once you are tuned to a station you can memorize the frequency for recall later—see *Saving station presets* below for more on how to do this.



1 Press TUNER to select the tuner.

2 Use BAND to change to BAND (FM or AM), if necessary.

Each press switches the band between FM (stereo or mono) and AM.

3 Tune to a station.

There are three ways to do this:

Automatic tuning

To search for stations in the currently selected band, press and hold **TUNE** $\uparrow/\downarrow$ for about a second. The receiver will start searching for the next station, stopping when it has found one. Repeat to search for other stations.

Manual tuning

To change the frequency one step at a time, press **TUNE** $\uparrow/\downarrow$.

High speed tuning

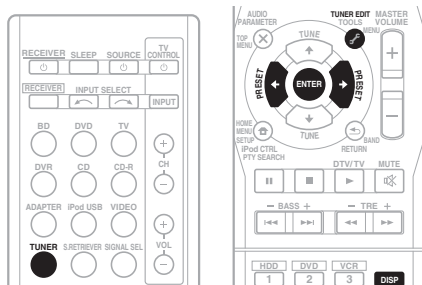
Press and hold **TUNE** $\uparrow/\downarrow$ for high speed tuning. Release the button at the frequency you want.

Improving FM sound

If the **TUNE** or **ST** indicators don't light when tuning to an FM station because the signal is weak, press the **BAND** button to select **FM MONO** and set the receiver to the mono reception mode. This should improve the sound quality and allow you to enjoy the broadcast.

Saving station presets

If you often listen to a particular radio station, it's convenient to have the receiver store the frequency for easy recall whenever you want to listen to that station. This saves the effort of manually tuning in each time. This unit can memorize up to 30 stations.¹



Note

- 1 If the receiver is left disconnected from the AC power outlet for over a month, the station memories will be lost and will have to be reprogrammed.
- Stations are stored in stereo. When the station is stored in the FM MONO mode, it shows as **ST** when recalled.

1 Tune to a station you want to memorize.

See *Listening to the radio* on page 48 for more on this.

2 Press TUNER EDIT.

The display shows **PRESET**, then a blinking **MEM** and station preset.

3 Press PRESET ◀/▶ to select the station preset you want.

You can also use the number buttons.

4 Press ENTER.

After pressing **ENTER**, the preset number stop blinking and the receiver stores the station.

Listening to station presets

You will need to have some presets stored to do this. See *Saving station presets* on page 48 if you haven't done this already.

• Press PRESET ◀/▶ to select the station preset you want.

- You can also use the number buttons on the remote control to recall the station preset.

Naming preset stations

For easier identification, you can name all of your preset stations.

1 Choose the station preset you want to name.

See *Listening to station presets* above for how to do this.

2 Press TUNER EDIT twice.

The cursor at the first character position is blinking on the display.

3 Input the name you want.

Choose a name up to eight characters long.

- Use the **PRESET** ◀/▶ buttons to select character position.
- Use the **TUNE** ↑/↓ buttons to select characters.
- The name is stored when **ENTER** is pressed.



Tip

- To erase a station name, follow steps 1 and 2, and press **ENTER** while the display is blank. Press **TUNER EDIT** while the display is blank, to keep the previous name.
- Once you have named a station preset, Press **DISP** to show the name. When you want to return to the frequency display, press **DISP** several times to show the frequency.

Changing the radio frequency step

If you find that you can't tune into stations successfully, the frequency step may not be suitable for your country/region. Here's how to switch the setting:

1 Switch the receiver into standby.

2 While holding down the TUNE ↓ button, press and hold the ⏻ STANDBY/ON button for about two seconds.

- The channel tuning step alternates between **10K STEP** and **9K STEP** each time you do this.

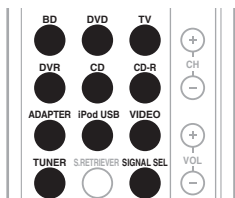
Chapter 8:

Making recordings

Making an audio or a video recording

You can make an audio or a video recording from the built-in tuner, or from an audio or video source connected to the receiver (such as a CD player or TV).

Only video signals that were input to this receiver through a composite video cable or analog audio inputs can be recorded. Signals that were input through an HDMI cable, component video cable or digital audio cable (see *Connecting other audio components* on page 26 for more on connections).



1 Press input function buttons to select the input function you want to record.

The input of the receiver will switch over, and you will be able to operate other components using the remote control.

- The input source can also be selected by using **INPUT SELECT** buttons on the remote control, or by using the front panel **INPUT SELECTOR** dial.

2 Select the audio input signal (if necessary).

Press **SIGNAL SEL** button and select the analog inputs (**A**) for the source component of which you want to record (see page 33 for more on this).

3 Prepare the source you want to record.

Tune to the radio station, load the CD, video, DVD etc.

4 Prepare the recorder.

Insert a blank tape, MD, video etc. into the recording device and set the recording levels.

Refer to the instructions that came with the recorder if you are unsure how to do this. Most video recorders set the audio recording level automatically—check the component's instruction manual if you're unsure.

5 Start recording, then start playback of the source component.¹

Note

- The receiver's volume, balance, tone (bass, treble, loudness), and surround effects have no effect on the recorded signal.
- Some video sources are copy-protected. These cannot be recorded.

Chapter 9:

Controlling the rest of your system

Setting the remote to control other components

Most components can be assigned to one of the input function buttons using the component's manufacturer preset code stored in the remote.

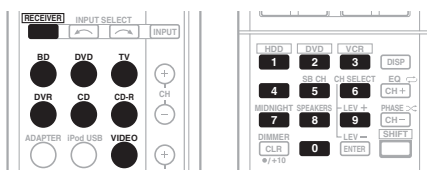
However, please note that there are cases where only certain functions may be controllable after assigning the proper preset code, or the codes for the manufacturer in the remote control will not work for the model that you are using.¹



Note

- You can cancel or exit any of the steps by pressing **RECEIVER**.
- After one minute of inactivity, the remote automatically exits the operation.

Selecting preset codes directly



1 While pressing the **RECEIVER button, press and hold the '1' button for three seconds.**

2 Press the input function button for the component you want to control.

The component can be assigned to the **BD**, **DVD**, **TV**, **DVR**, **CD**, **CD-R** or **VIDEO** button.

- When assigning preset codes to **TV CONTROL**, press **INPUT** here.

3 Use the number buttons to enter the preset code.

You can find the preset codes on page 55.

If the correct code has been input the power of the component being input will turn on or off.

The power of the component being input will only turn on or off if that component is able to be turned on directly by remote control.

4 Repeat steps 2 through 3 to try a different code, or to enter a code for another component you want to control.

5 When you're done, press **RECEIVER.**

Note

¹ **TV CONTROL** buttons are only dedicated to control the TV (for example, codes for TV, CATV, Satellite TV or DTV).

Clearing all the remote control settings

You can clear all presets and restore the factory default settings.

- While pressing the **RECEIVER** button, press and hold the '0' button for three seconds.

Default preset codes

Input function button	Preset code
BD	2 2 5 5
DVD	2 2 5 6
TV	0 2 9 1
DVR	2 2 5 7
VIDEO	1 0 5 3
CD	5 0 0 0
CD-R	5 0 0 1
TV CONTROL	0 2 9 1

Controls for TVs

This remote control can control components after entering the proper codes or teaching the receiver the commands (see *Controlling the rest of your system* on page 51 for more on this). Use the input function buttons to select the component.

- The **TV CONTROL** buttons on the remote control are dedicated to control the TV assigned to the **TV CONTROL INPUT** button.

Button(s)	Function	Components
TV CONTROL 	Switches the DTV on or off.	DTV
	Switches the TV or CATV between standby and on.	Cable TV/Satellite TV/TV
TV CONTROL INPUT	Switches the TV input. (Not possible with all models.)	TV
TV CONTROL CH +/-	Selects channels.	Cable TV/Satellite TV/TV/DTV
TV CONTROL VOL +/-	Adjust the TV volume.	Cable TV/Satellite TV/TV/DTV
 SOURCE	Press to switch the component assigned to the TV button on or off.	Cable TV/Satellite TV/TV/DTV
DTV/TV	Switches between the DTV and analog TV input modes for Pioneer TVs.	TV/DTV
TOP MENU	Switches TEXT ON/OFF for TVs.	TV
HOME MENU	Use as the GUIDE button for navigating.	Cable TV/Satellite TV/TV/DTV
RETURN	Use to select closed captioning with DTV.	DTV
Number buttons	Use to select a specific TV channel.	Cable TV/Satellite TV/TV/DTV
ENTER	Use to enter a channel.	Cable TV/Satellite TV/TV/DTV
MENU	Press to display the DTV menu.	DTV
	Select the menu screen.	Cable TV/Satellite TV/TV
    & ENTER	Press to select or adjust and navigate items on the menu screen.	Cable TV/Satellite TV/TV/DTV
CH +/-	Selects channels.	Cable TV/Satellite TV/TV/DTV

Controls for other components

This remote control can control these components (BD, DVD, CD, DVR (BDR), VCR, CD-R) after entering the proper codes or teaching the receiver the commands (see *Controlling the rest of your system* on page 51 for more on this). Use the input function buttons to select the component.

Button(s)	Function	Components
 SOURCE	Press to switch the component between standby and on.	Blu-ray disc player, DVD player, CD player, DVR (BDR), VCR, CD-R
	Press to return to the start of the current track. Repeated presses skips to the start of previous tracks.	
	Press to advance to the start of the next track. Repeated presses skips to the start of following tracks.	
	Pause playback or recording.	
	Start playback.	
	Hold down for fast forward playback.	
	Hold down for fast reverse playback.	
	Stops playback (on some models, pressing this when the disc is already stopped will cause the disc tray to open).	
Number buttons	Use to enter a title/chapter/track number.	
DISP	Press to display information.	
TOP MENU	Displays the disc 'top' menu of a BD/DVD player.	DVR, VCR
MENU	Displays menus for the current BD/DVD or DVR you are using.	
 ENTER & RETURN	Navigates BD/DVD menu/options.	
HOME MENU	Displays the HOME MENU.	
CH +/-	Selects channels.	
HDD (SHIFT + 1)	Switches to the hard disk controls when using an HDD/ DVD recorder.	
DVD (SHIFT + 2)	Switches to the DVD controls when using an HDD/DVD recorder.	
VCR (SHIFT + 3)	Switches to the VCR controls when using an HDD/DVD/ VCR recorder.	

Preset Code List

You should have no problem controlling a component if you find the manufacturer in this list, but please note that there are cases where codes for the manufacturer in the list will not work for the model that you are using. There are also cases where only certain functions may be controllable after assigning the proper preset code.

example:

TV	_____	Category
Pioneer 0291	_____	Preset code
	_____	Manufacturer



Important

- We do not guarantee the operations of all the manufacturers and devices listed. Operation may not be possible even if a preset code is entered.

TV

Pioneer 0291, 0113, 0295, 0296

A.R. Systems 0155

Acme 0141

Acura 0142, 0154

ADC 0140

Admiral 0138, 0139, 0140, 0145, 0146

Adyson 0141, 0228, 0229

Agashi 0228, 0229

Agazi 0140

Aiko 0141, 0142, 0154, 0155, 0228, 0229

Aim 0155

Aiwa 0199

Akai 0142, 0143, 0149, 0152, 0154, 0155, 0228, 0229

Akiba 0143, 0155

Akura 0140, 0143, 0154, 0155

Alaron 0228

Alba 0125, 0141, 0142, 0143, 0147, 0150, 0152, 0154, 0155, 0190, 0193, 0203, 0228

Alcyon 0132

Allorgan 0229

Allstar 0149, 0155

AMOI 0224

Amplivision 0125, 0141, 0156, 0229

Amstrad 0140, 0142, 0143, 0154, 0155

Anam 0142

Anglo 0142, 0154

Anitech 0132, 0140, 0142, 0154, 0155

Ansonic 0125, 0133, 0142, 0144, 0154, 0155

Arcam 0228, 0229

Arcam Delta 0141

Aristona 0149, 0152, 0155

Arthur Martin 0156

ASA 0138, 0146

Asberg 0132, 0149, 0155

Astra 0142

Asuka 0140, 0141, 0143, 0228, 0229

Atlantic 0141, 0149, 0152, 0155, 0228

Atori 0142, 0154

Auchan 0156

AudioSonic 0125, 0141, 0142, 0143, 0149, 0152, 0155, 0229

AudioTon 0125, 0141, 0229

Ausind 0132

Autovox 0132, 0138, 0140, 0141, 0229

Awa 0228, 0229

Baird 0229

Bang & Olufsen 0138, 0230

Basic Line 0142, 0143, 0149, 0154, 0155, 0229

Bastide 0141, 0229

Baur 0152, 0155

Bazin 0229

Beko 0125, 0150, 0155, 0175

Benq 0219

Beon 0149, 0152, 0155

Best 0125

Bestar 0125, 0149, 0155

Binatone 0141, 0229

Blue Sky 0143, 0155

Blue Star 0151

Boots 0141, 0229

BPL 0151, 0155

Brandt 0148, 0153, 0157, 0159

Brinkmann 0155

Brionvega 0138, 0149, 0152, 0155

Britannia 0141, 0228, 0229

Bruns 0138

BTC 0143

Bush 0142, 0143, 0145, 0147, 0149, 0151, 0152, 0154, 0155, 0180, 0193, 0229

Capsonic 0140

Carena 0155

Carrefour 0147

Cascade 0142, 0154, 0155

Casio 0221

Cathay 0149, 0152, 0155

CCE 0229

Centurion 0149, 0152, 0155

Century 0138

CGE 0125, 0132

Cimline 0142, 0154

City 0142, 0154

Clarivox 0152

Clatronic 0125, 0132, 0140, 0141, 0142, 0143, 0149, 0150, 0154, 0155, 0229

CMS 0228

CMS Hightec 0229

Concorde 0142, 0154

Condor 0125, 0141, 0149, 0150, 0154, 0155, 0228

Contec 0141, 0142, 0147, 0154, 0228

Continental Edison 0148

Cosmel 0142, 0154

Crosley 0132, 0138

Crown 0125, 0132, 0142, 0149, 0150, 0152, 0154, 0155

CS Electronics 0141, 0143, 0228

CTC Clatronic 0144

Cybertron 0143

Daewoo 0128, 0141, 0142, 0149, 0154, 0155, 0169, 0179, 0206, 0228, 0229

Dainichi 0143, 0228

Dansai 0140, 0149, 0152, 0155, 0228, 0229

Dantax 0125, 0152

Dawa 0155

Daytron 0142, 0154

De Graaf 0145

Decca 0141, 0149, 0152, 0155, 0229

Denver 0213, 0218

Desmet 0149, 0152, 0155

Diamant 0155

Diamond 0228

Dixi 0142, 0149, 0152, 0154, 0155, 0229

DTS 0142, 0154

Dual 0141, 0155, 0229

Dual-Tec 0141, 0142

Dumont 0138, 0141, 0144, 0229

Dux 0152

Dynatron 0149, 0152, 0155

Elbe 0125, 0133, 0155, 0229

Elcit 0138

Electa 0151

ELECTRO TECH 0142

Elin 0141, 0149, 0152, 0154, 0155, 0228

Elite 0143, 0149, 0155

Elman 0144

Elta 0142, 0154, 0228

Emerson 0125, 0138, 0155

Epson 0216

Erres 0149, 0152, 0155

ESC 0229

Etron 0142

Eurofeel 0229, 0140

Euroline 0152

Euroman 0125, 0140, 0141, 0149, 0155, 0228, 0229

Europhon 0141, 0144, 0149, 0155, 0228, 0229

Expert 0156

Exquisite 0155

Fenner 0142, 0154

Ferguson 0148, 0152, 0153, 0157

Fidelity 0141, 0145, 0155, 0228

Filsai 0229

Finlandia 0145

Finlux 0132, 0138, 0141, 0144, 0149, 0152, 0155, 0229

Firstline 0141, 0142, 0149, 0154, 0155, 0228, 0229

- Fisher** 0125, 0138, 0141, 0147, 0150, 0229
Flint 0149, 0155
Formenti 0132, 0138, 0139, 0141, 0152, 0228
Formenti/Phoenix 0228
Fortress 0138, 0139
Fraba 0125, 0155
Friac 0125
Frontech 0140, 0142, 0145, 0146, 0154, 0229
Fujitsu 0229
Fujitsu General 0229
Funai 0140
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If operations are not possible using the preset codes below, you may be able to conduct operations with the preset codes for the **BD, DVR (BDR, HDR)**.

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If operations are not possible using the preset codes below, you may be able to conduct operations with the preset codes for the **DVD, DVR (BDR, HDR)**.

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If operations are not possible using the preset codes below, you may be able to conduct operations with the preset codes for the **DVD, BD**.

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Boca 6256, 6180, 6252, 6185,

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Boshmann 6244, 6247

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Dijam 6195

DirectTV 6263

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Wewa 6176
Wharfedale 6217, 6265,
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Wisi 6177, 6256, 6229, 6261,
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Worthit! 6190
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Xtreme 6251

Yakumo 6244
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Zehnder 6213, 6262, 6179,
 6192, 6252, 6227, 6238,
 6199, 6244, 6247, 6249
Zeta Technology 6214
Zodiac 6261, 6200

Satellite Set Top Box (SAT/PVR Combination)

@sat 6251
Allvision 6199
Atsat 6251
B@ytronic 6230, 6199
Boca 6187
BskyB 6210
Bush 6254
Canal Satellite 6278
Comag 6199, 6187
Daewoo 6182
Digifusion 6269
Digihome 6218
DigiQuest 6251
Digital 6187
DMT 6192
Edision 6247
eMTech 6196
GbsAT 6196
Gecco 6199
Globo 6199

Goodmans 6254, 6218
Hirschmann 6230, 6199
Humax 6241, 6242
Huth 6192
Hyundai 6192
Kathrein 6272
LaSAT 6230
LG 6192
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Maximum 6238
Mediacom 6198
MediaSat 6277
Medion 6230, 6199
Microstar 6192
Morgan's 6199
MySky 6212, 6211
NEOTION 6238
Nichimen 6254
Nokia 6206
Opentel 6199

Orbis 6199
Pace 6273, 6211
Panasonic 6178
Philips 6263, 6277
Pilotime 6278
Pixx 6191
Proscan 6234
Rebox 6196
Sagem 6258
Samsung 6198, 6197, 6273
Sat Control 6251
Schneider 6198
Schwaiger 6230, 6192, 6199,
 6187
Sedea Electronique 6198
Serd 6199
Sharp 6218
SilverCrest 6187
SKY 6210, 6212, 6211
SKY Italia 6212
Sky XL 6199

Skymaster 6192
Skypex 6230
Skyplus 6230, 6238, 6199
Stream System 6251
Sumin 6199
Sunny 6251
Targa 6191
TechniSat 6216, 6223
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Telestar 6216, 6223
Thomson 6210, 6265
TNT SAT 6258
Topfield 6198
Viasat 6273
Visiosat 6254, 6191
Wisi 6230
Xoro 6191
Xtreme 6251
Zehnder 6192, 6199, 6249

Cable Set Top Box

Pioneer 6205
ABC 6266
ADB 6175
Auna 6175
Austar 6276
Bell & Howell 6266
Birmingham Cable
Communications 6276
Cablecom 6270
Fosgate 6276
France Telecom 6260
Freebox 6274

General Instrument 6276
 6266
Humax 6224, 6248
Jerrold 6276, 6266
Kabel Deutschland 6224
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Madritel 6175
Magnavox 6266
Memorex 6240
Motorola 6276
Nokia 6208
Noos 6260

NTL 6276, 6221
Optus 6276
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Paragon 6240
Philips 6260, 6270
Pulsar 6240
Runco 6240
Sagem 6260
Salora 6240
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Scientific Atlanta 6225

StarHub 6276
Supercable 6276
Telewest 6225
Thomson 6270, 6224
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UPC 6270
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Visiopass 6260
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Ziggo 6208

Cable Set Top Box (Cable/PVR Combination)

Freebox 6274
Humax 6248, 6224
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Scientific Atlanta 6225
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CD

Pioneer 5000, 5011

AKAI 5043

Asuka 5045

Denon 5019

Fisher 5048

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Kenwood 5020, 5021, 5031

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Onkyo 5017, 5018, 5030,
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5028, 5039

TEAC 5015, 5016, 5034, 5035,
5037

Technics 5041

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5046, 5047

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Pioneer 5001, 5053

Philips 5054

Yamaha 5055

Laser Disc Player

Pioneer 5002, 5003

Cassette Deck

Pioneer 5058, 5059

Digital Tape

Pioneer 5057

MD

Pioneer 5056

Chapter 10: Other connections

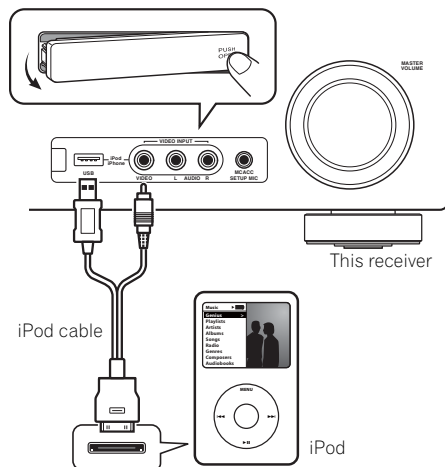
⚠ CAUTION

- Before making or changing the connections, switch off the power and disconnect the power cord from the power outlet. Plugging in components should be the last connection you make with your system.
- Do not allow any contact between speaker wires from different terminals.

Connecting an iPod

This receiver has a dedicated iPod terminal that will allow you to control playback of audio content from your iPod using the controls of this receiver.¹

- Push down on the **PUSH OPEN** tab to access the **iPod** terminal.



Connecting your iPod to the receiver

1 Set this receiver to the standby mode, and then use the iPod cable to connect your iPod to the iPod terminal on the front panel of this receiver.

For the cable connection, refer to also the operating instructions for iPod.

2 Switch on the receiver and your TV.

3 Switch the TV input to the input that connects this receiver to the TV through the corresponding composite or component cable.

Note

- This system is compatible with the audio and the video of the iPod nano, iPod (fifth generation), iPod classic, iPod touch and iPhone (iPod shuffle not supported). However, that some of the functions may be restricted for some models. Note, however, compatibility may vary depending on the software version of your iPod and iPhone. Please be sure to use the latest available software version.
- iPod and iPhone are licensed for reproduction of non-copyrighted materials or materials the user is legally permitted to reproduce.
- Features such as the equalizer cannot be controlled using this receiver, and we recommend switching the equalizer off before connecting.
- Pioneer cannot under any circumstances accept responsibility for any direct or indirect loss arising from any inconvenience or loss of recorded material resulting from the iPod failure.

4 Press iPod USB on the remote control to switch the receiver to the iPod USB input.

The front panel display shows **Loading** while the receiver verifies the connection and retrieves data from the iPod.

5 Use the TOP MENU button to display iPod Top menu.

When the display shows **Top Menu** you're ready to play music from the iPod.¹

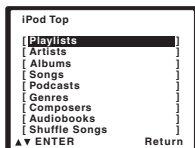
- If after pressing **iPod** the display shows **NO DEVICE**, try switching off the receiver and reconnecting the iPod to the receiver.

iPod playback

To navigate songs on your iPod, you can take advantage of the OSD of your TV connected to this receiver.² You can also control all operations for music in the front panel display of this receiver.

Finding what you want to play

When your iPod is connected to this receiver, you can browse songs stored on your iPod by playlist, artist, album name, song name, genre or composer, similar to using your iPod directly.



1 Use the ↑/↓ buttons to select a category then press ENTER to browse that category.

- To return to the previous level any time, press **RETURN**.

2 Use the ↑/↓ buttons to browse the selected category (e.g., albums).

- Use ←/→ to move to previous/next levels.

3 Continue browsing until you arrive at what you want to play, then press ► to start playback.³

Navigation through categories on your iPod looks like this:

Playlists → Songs
 Artists → Albums → Songs
 Albums → Songs
 Songs
 Podcasts
 Genres → Artists → Albums → Songs
 Composers → Albums → Songs
 Audiobooks
 Shuffle Songs



Tip

- You can play all of the songs in a particular category by selecting the **All** item at the top of each category list. For example, you can play all the songs by a particular artist.

Basic playback controls

The following table shows the basic playback controls for your iPod:

Button	What it does
►	Press to start playback. If you start playback when something other than a song is selected, all the songs that fall into that category will play.
II	Pauses playback, or restarts playback when paused.
ENTER	Press to set the play and pause modes.
◀◀/▶▶	Press and hold during playback to start scanning.
◀◀/▶▶	Press to skip to previous/next track.
↺	Press repeatedly to switch between Repeat One , Repeat All and Repeat Off .

Note

¹ The controls of your iPod (excluding the iPod touch and iPhone) will be inoperable when connected to this receiver (**Pioneer** shows in the iPod display).

² • Note that non-roman characters in the title are displayed as *.

• This feature is not available for photos or video clips on your iPod.

³ If you're in the song category, you can also press **ENTER** to start playback.

Button	What it does
	Press repeatedly to switch between Shuffle Songs , Shuffle Albums and Shuffle Off .
DISP (DISPLAY)	Press repeatedly to change the song playback information displayed in the front panel display.
	When browsing, press to move to previous/next levels.
	During Audiobook playback, press to switch the playback speed: Faster ↔ Normal ↔ Slower
TOP MENU	Press to return to the iPod Top menu screen.
RETURN	Press to return to the previous level.

Watching photos and video content

To view photos or video on your iPod, since video control is not possible using this receiver, you must use the main controls of your iPod instead.¹

Important

- To play photos or video on your iPod, you must connect the composite **MONITOR OUT** jack and TV.

1 Press iPod CTRL to switch to the iPod controls for photo and video playback.

The receiver controls will be unavailable while you are watching iPod videos or browsing photos.

2 Press iPod CTRL again to switch back to the receiver controls when you're done.

Tip

- Change the receiver's input to the iPod in one action by pressing the **iPod iPhone DIRECT CONTROL** button on the front panel to enable **iPod** operations on the iPod.

About iPod



"Made for iPod" means that an electronic accessory has been designed to connect specifically to iPod and has been certified by the developer to meet Apple performance standards.

"Works with iPhone" means that an electronic accessory has been designed to connect specifically to iPhone and has been certified by the developer to meet Apple performance standards.

Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

iPod is a trademark of Apple Inc., registered in the U.S. and other countries. iPhone is a trademark of Apple Inc.

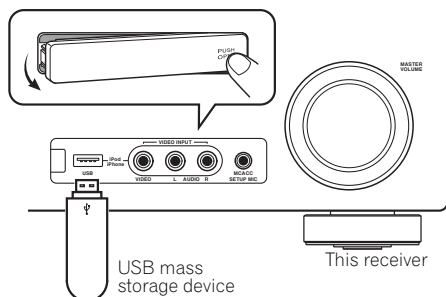
Note

- ¹
- iPod photos and video content can be viewed only when the iPod is connected to the **iPod VIDEO** input on the front panel.
 - This feature can only be used with an iPod having video output.

Connecting a USB device

It is possible to listen to two-channel audio¹ using the USB interface on the front of this receiver. Connect a USB mass storage device² as shown below.

- Push down on the **PUSH OPEN** tab to access the **USB** terminal.

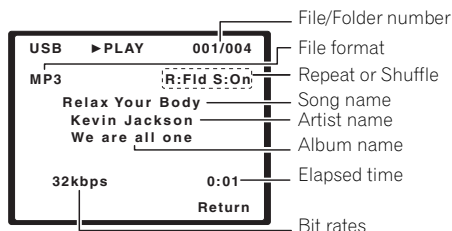


Connecting your USB device to the receiver

- 1 Switch on the receiver and your TV.
- 2 Switch the TV input to the input that connects this receiver to the TV through the corresponding composite or component cable.
- 3 Press iPod USB on the remote control to switch the receiver to the iPod USB input. **NO DEVICE** appears in the OSD.
- 4 Connect your USB device.³

The USB terminal is located on the front panel.

Loading appears in the OSD as this receiver starts recognizing the USB device connected. After the recognition, a playback screen appears in the OSD and playback starts automatically.⁴



Basic playback controls

The following table shows the basic controls on the remote for USB playback. Press **iPod USB** to switch the remote control to the iPod USB operation mode.

Button	What it does
▶	Starts normal playback.
II	Pauses/unpauses playback.
◀◀/▶▶	Press to skip to previous/next track.
◀◀/▶▶ (hold)	Press and hold during playback to start scanning.
↺	Press repeatedly to switch between Repeat Folder , Repeat One and Repeat All .
↻	Press repeatedly to switch between Shuffle On and Shuffle Off .
DISP (DISPLAY)	Press repeatedly to change the song playback information displayed in the front panel display.

Note

- 1 This includes playback of WMA/MP3/MPEG-4 AAC files (except files with copy-protection or restricted playback).
- 2 • Compatible USB devices include external magnetic hard drives, portable flash memory (particularly keydrives) and digital audio players (MP3 players) of format FAT16/32. It is not possible to connect this receiver to a personal computer for USB playback.
 - Pioneer cannot guarantee compatibility (operation and/or bus power) with all USB mass storage devices and assumes no responsibility for any loss of data that may occur when connected to this receiver.
 - With large amounts of data, it may take longer for the receiver to read the contents of a USB device.
- 3 Make sure the receiver is in standby when disconnecting the USB device.
- 4 • If the file selected cannot be played back, this receiver automatically skips to the next file playable.
 - When the file currently being played back has no title assigned to it, the file name is displayed in the OSD instead; when neither the album name nor the artist name is present, the row is displayed as a blank space.
 - Note that non-roman characters in the playlist are displayed as *.

Button	What it does
⏮️/⏭️	During playback, press to skip to previous/next track.
⏮️/⏭️	
TOP MENU	Press to return to the menu screen.
RETURN	Press to return to the previous level.

Important

If a **USB Error** message lights in the display, try following the points below:

- Switch the receiver off, then on again.
- Reconnect the USB device with the receiver switched off.
- Select another input source (like **BD**), then switch back to **iPod USB**.
- Use a dedicated AC adapter (supplied with the device) for USB power.

For more information on error messages, see *USB messages* on page 77.

If this doesn't remedy the problem, it is likely your USB device is incompatible.

Compressed audio compatibility

Note that although most standard bit/sampling rate combinations for compressed audio are compatible, some irregularly encoded files may not play back. The list below shows compatible formats for compressed audio files:

- **MP3** (MPEG-1/2/2.5 Audio Layer 3) – Sampling rates: 8 kHz to 48 kHz; Bit rates: 8 kbps to 320 kbps (128 kbps or higher recommended); File extension: **.mp3**
- **WMA** (Windows Media Audio) – Sampling rates: 32 kHz / 44.1 kHz; Bit rates: 32 kbps to 192 kbps (128 kbps or higher recommended); File extension: **.wma**; WMA9 Pro and WMA lossless encoding: No
- **AAC** (MPEG-4 Advanced Audio Coding) – Sampling rates: 11.025 kHz to 48 kHz; Bit rates: 16 kbps to 320 kbps (128 kbps or higher recommended); File extension: **.m4a**; Apple lossless encoding: No

Other compatibility information

- VBR (variable bit rate) MP3/WMA/MPEG-4 AAC playback: Yes¹
- DRM (Digital Rights Management) protection compatible: Yes (DRM-protected audio files will not play in this receiver.)

About MPEG-4 AAC

Advanced Audio Coding (AAC) is at the core of the MPEG-4 AAC standard, which incorporates MPEG-2 AAC, forming the basis of the MPEG-4 audio compression technology. The file format and extension used depend on the application used to encode the AAC file. This receiver plays back AAC files encoded by iTunes® bearing the extension '**.m4a**'. DRM-protected files will not play, and files encoded with some versions of iTunes® may not play.

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About WMA



The Windows Media logo printed on the box indicates that this receiver can playback Windows Media Audio content.

WMA is an acronym for Windows Media Audio and refers to an audio compression technology developed by Microsoft Corporation. This receiver plays back WMA files encoded using Windows Media® Player bearing the extension '**.wma**'. Note that DRM-protected files will not play, and files encoded with some versions of Windows Media® Player may not play.

Windows Media, and the Windows logo are trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

Note

¹ Note that in some cases playback time will not be displayed correctly.

- 1 Switch the receiver into standby and connect **Bluetooth ADAPTER** to the **ADAPTER PORT** located in the rear panel.
- 2 Switch on the receiver.
- 3 Press **ADAPTER** on the remote control to switch the receiver to **ADAPTER** input.¹

Pairing **Bluetooth ADAPTER** and **Bluetooth** wireless technology device

"Pairing" must be done before you start playback of **Bluetooth** wireless technology content using **Bluetooth ADAPTER**. Make sure to perform pairing first time you operate the system or any time pairing data is cleared. "Pairing" is the step necessary to register **Bluetooth** wireless technology device to enable **Bluetooth** communications.² For more details, see also the operating instructions of your **Bluetooth** wireless technology device.

- 1 Press **TOP MENU**.
- 2 Press **ENTER** to enter **PAIRING**.
- 3 Select the PIN code to be used from 0000/1234/8888 using **←/→**, then press **ENTER**. **PAIRING** blinks.



Important

- You can use any of 0000/1234/8888 PIN codes. **Bluetooth** wireless technology device using any other PIN code cannot be used with this system.

- 4 Switch on the **Bluetooth** wireless technology device that you want to make pairing, place it near the system and set it into the pairing mode.

- 5 Check to see that the **Bluetooth ADAPTER** is detected by the **Bluetooth** wireless technology device.

When Bluetooth wireless technology device is connected:

Bluetooth wireless technology device name appears in the receiver display.³

When Bluetooth wireless technology device is not connected:

NODEVICE appears in the receiver display. In this case, perform the connection operation from the side of the **Bluetooth** wireless technology device.

- 6 From the **Bluetooth** wireless technology device list, select **Bluetooth ADAPTER** and enter the PIN code selected in the step 4.⁴

Note

- 1 When the **Bluetooth ADAPTER** is not plugged into the **ADAPTER PORT**, **NO ADAPTER** will be displayed if **ADAPTER** input is selected.
- 2 • Pairing is required when you first use **Bluetooth** wireless technology device and **Bluetooth ADAPTER**.
• To enable **Bluetooth** communication, pairing should be done with both of your system and **Bluetooth** wireless technology device.
- 3 The system can display alphanumeric characters only. Other characters may not be displayed correctly.
- 4 PIN code may in some case be referred to as **PASSKEY**.

Listening to Music Contents of *Bluetooth* wireless technology device with Your System

1 Press **ADAPTER** on the remote control to switch the receiver to **ADAPTER** input.

2 Perform the connection operation from the side of the *Bluetooth* wireless technology device to the *Bluetooth* **ADAPTER**.

3 Start playback of music contents stored in *Bluetooth* wireless technology device.

The following operations are now possible for *Bluetooth* wireless technology devices, using the remote controller.¹

Button	What it does
	Starts normal playback and pauses/unpauses playback.
	Press to skip to the start of the current file, then previous files. Press and hold to start fast reverse scanning.
	Press to skip to the next file. Press and hold to start fast forward scanning.

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Note

- ¹ • *Bluetooth* wireless technology device should be compatible with AVRCP profile.
• Depending on *Bluetooth* wireless technology device you use, operation may differ from what is shown in this table.

Chapter 11:

Additional information

Troubleshooting

Incorrect operations are often mistaken for trouble and malfunctions. If you think that there is something wrong with this component, check the points below. Take a look at the other components and electrical appliances being used, because sometimes the problem may lie there. If the trouble isn't sorted out even after going through the checks below, ask your nearest Pioneer authorized independent service company to carry out repair work.

- If the unit does not operate normally due to external effects such as static electricity disconnect the power plug from the outlet and insert again to return to normal operating conditions.

Problem	Remedy
The power does not turn on.	• Disconnect the power plug from the outlet, and insert again. • Make sure there are no loose strands of speaker wire touching the rear panel. This could cause the receiver to shut off automatically.
The receiver suddenly switches off.	• After about a minute (you won't be able to switch the unit on during this time), switch the receiver back on. If the message persists, call a Pioneer authorized independent service company.
No sound is output when a function is selected.	• Use MASTER VOLUME to turn up the volume. • Press MUTE on the remote control to turn muting off. • Press SPEAKERS to select the proper speaker set (see <i>Switching the speaker system</i> on page 20). • Set the SIGNAL SEL to HDMI, C1/O1/O2 (DIGITAL) or A (analog) according to the type of connections made (refer to page 33). • Make sure the component is connected correctly (refer to <i>Connecting your equipment</i> on page 16). • Check the audio output settings of the source component. • Refer to the instruction manual supplied with the source component.
No image is output when a function is selected.	• Make sure the component is connected correctly (refer to <i>Connecting your equipment</i> on page 16). • Use the same type of video cables for the source component and TV to connect to this receiver (see <i>About video outputs connection</i> on page 22). • Check <i>The Input Assign menu</i> on page 46 to make sure you're assigned the correct input. • The video input selected on the TV monitor is incorrect. Refer to the instruction manual supplied with the TV.

Problem	Remedy
No sound from subwoofer.	• Make sure the subwoofer is switched on. • If the subwoofer has a volume knob, make sure it's turned up. • The Dolby Digital or DTS source you are listening to may not have an LFE channel. • Switch the subwoofer setting in <i>Speaker Setting</i> on page 43 to YES or PLUS. • Switch the <i>LFE ATT (LFE Attenuate)</i> on page 40 to LFEATT 0 or LFEATT 5.
No sound from surround or center speakers.	• Connect the speakers properly (refer to page 18). • Refer to <i>Speaker Setting</i> on page 43 to check the speaker settings. • Refer to <i>Channel Level</i> on page 45 to check the speaker levels.
The PHASE CONTROL feature doesn't seem to have an audible effect.	• If applicable, check that the lowpass filter switch on your subwoofer is off, or the lowpass cutoff is set to the highest frequency setting. If there is a PHASE setting on your subwoofer, set it to 0° (or depending on the subwoofer, the setting where you think it has the best overall effect on the sound). • Make sure the speaker distance setting is correct for all speakers (see <i>Speaker Distance</i> on page 46).
Considerable noise in radio broadcasts.	• Connect the antenna (page 27) and adjust the position for best reception. • Route any loose cables away from the antenna terminals and wires. • Fully extend the FM wire antenna, position for best reception, and secure to a wall (or connect an outdoor FM antenna). • Connect an additional internal or external AM antenna (page 27). • Turn off equipment causing interference or move it away from the receiver (or move antennas farther away from equipment causing noise).
Broadcast stations cannot be selected automatically.	• Connect an outdoor antenna (refer to page 27).
Noise during playback of a cassette deck.	• Move the cassette deck away from your receiver, until the noise disappears.
No sound is output or a noise is output when software with DTS is played back.	• Make sure the player's settings are correct and/or the DTS signal out is on. Refer to the instruction manual supplied with the DVD player.
There seems to be a time lag between the speakers and the output of the subwoofer.	• See <i>Automatically setting up for surround sound (MCACC)</i> on page 29 to set up your system again using MCACC (this will automatically compensate for a delay in the subwoofer output).
After using the Auto MCACC Setup, the speaker size setting (LARGE or SMALL) is incorrect.	• Low-frequency noise could have been caused by an air conditioner or motor. Switch off all appliances in the room and rerun the Auto MCACC Setup.

Problem	Remedy
Can't operate the remote control.	• Replace the batteries (refer to page 8). • Operate within 7 m, 30° of the remote sensor (refer to page 10). • Remove the obstacle or operate from another position. • Avoid exposing the remote sensor on the front panel to direct light.
The display is dark or off.	• Press DIMMER on the remote control repeatedly to return to the default.
The <i>Bluetooth</i> wireless technology device cannot be connected or operated. Sound from the <i>Bluetooth</i> wireless technology device is not emitted or the sound is interrupted.	• Check that no object that emits electromagnetic waves in the 2.4 GHz band (microwave oven, wireless LAN device or <i>Bluetooth</i> wireless technology apparatus) is near the unit. If such an object is near the unit, set the unit far from it. Or, stop using the object emitting the electromagnetic waves. • Check that the <i>Bluetooth</i> wireless technology device is not too far from the unit and that obstructions are not set between the <i>Bluetooth</i> wireless technology device and the unit so that the distance between them is less than about 10 m and no obstructions exist between them. • Check that the <i>Bluetooth</i> ADAPTER and the ADAPTER PORT of the unit are correctly connected. • The <i>Bluetooth</i> wireless technology device may not be set to the communication mode supporting the <i>Bluetooth</i> wireless technology. Check the setting of the <i>Bluetooth</i> wireless technology device. • Check that pairing is correct. The pairing setting was deleted from this unit or the <i>Bluetooth</i> wireless technology device. Reset the pairing. • Check that the profile is correct. Use a <i>Bluetooth</i> wireless technology device that supports A2DP profile and AVRCP profile.

HDMI

Symptom	Remedy
No picture or sound.	• If the problem still persists when connecting your HDMI component directly to your monitor, please consult the component or monitor manual or contact the manufacturer for support.
No picture.	• Video signals that are input from the analog video terminal will not output from the HDMI terminal. Signals that are input from the HDMI terminal will not output from the analog video terminal. Be consistent with the type of cable between input and output. • Depending on the output settings of the source component, it may be outputting a video format that can't be displayed. Change the output settings of the source, or connect using the component or composite video jacks. • This receiver is HDCP-compatible. Check that the components you are connecting are also HDCP-compatible. If they are not, please connect them using the component or composite video jacks. • Depending on the connected source component, it's possible that it will not work with this receiver (even if it is HDCP-compatible). In this case, connect using the component or composite video jacks between source and receiver. • If video images do not appear on your TV, try adjusting the resolution, Deep Color or other setting for your component. • To output signals in Deep Color, use an HDMI cable (High Speed HDMI® Cable) to connect this receiver to a component or TV with the Deep Color feature.
The OSD screen (System Setup menu or the menu screen for the iPod/USB) isn't displayed.	• The OSD will not appear if you have connected using the HDMI output to your TV. Use component or composite connections when setting up the system.
No sound, or sound suddenly ceases.	• Check that the Audio Parameter setting is set to HDMI AMP/THRU (refer to page 41). • If the component is a DVI device, use a separate connection for the audio. • HDMI format digital audio transmissions require a longer time to be recognized. Due to this, interruption in the audio may occur when switching between audio formats or beginning playback. • Turning on/off the device connected to this unit's HDMI OUT terminal during playback, or disconnecting/connecting the HDMI cable during playback, may cause noise or interrupted audio.

Important information regarding the HDMI connection

There are cases where you may not be able to route HDMI signals through this receiver (this depends on the HDMI equipped component you are connecting-check with the manufacturer for HDMI compatibility information).

If you aren't receiving HDMI signals properly through this receiver (from your component), please try the following configuration when connecting up.

Configuration

Connect your HDMI-equipped component directly to the display using an HDMI cable. Then use the most convenient connection (digital is recommended) for sending audio to the receiver. See the operating instructions for more on audio connections. Set the display volume to minimum when using this configuration.



Note

- Depending on the component, audio output may be limited to the number of channels available from the connected display unit (for example audio output is reduced to 2 channels for a monitor with stereo audio limitations).
- If you want to switch the input source, you'll have to switch functions on both the receiver and your display unit.
- Since the sound is muted on the display when using the HDMI connection, you must adjust the volume on the display every time you switch input sources.

iPod messages

Symptom	Cause	Action
iPod/USB Error 1 (I/U ERR1)	There is a problem with the signal path from the iPod to the receiver.	Switch off the receiver and reconnect the iPod to the receiver. If this doesn't seem to work, try resetting your iPod.
iPod/USB Error 2 (I/U ERR2)	The software version being used with the iPod needs to be updated.	Update the software being used with the iPod (please use the latest iPod software versions later than the iPod updater 2004-10-20).
	An iPod not supported by this receiver is connected.	Connect the iPod supported by this receiver.
iPod/USB Error 3 (I/U ERR3)	When there is no response from the iPod.	Update the iPod software to the latest version. If this doesn't seem to work, try resetting your iPod.
No Track	When there are no tracks in the category selected on the iPod.	Select a different category.

USB messages

Symptom	Cause	Action
iPod/USB Error 1 (I/U ERR1)	There is a problem with the signal path from the USB to the receiver.	Switch off the receiver and reconnect the USB to the receiver.
iPod/USB Error 3 (I/U ERR3)	When there is no response from the USB.	Switch off the receiver and reconnect the USB to the receiver.
iPod/USB Error 4 (I/U ERR4)	The power requirements of the USB device are too high for this receiver.	Switch off the receiver and reconnect the USB to the receiver.

Resetting the main unit

Use this procedure to reset all the receiver's settings to the factory default. Use the front panel controls to do this.

- 1 Switch the receiver into standby.**
- 2 While holding down the BAND button, press and hold the  STANDBY/ON button for about two seconds.**
- 3 When you see RESET? appear in the display, press AUTO/DIRECT.**
OK? shows in the display.
- 4 Press STEREO/ALC to confirm.**
OK appears in the display to indicate that the receiver has been reset to the factory default settings.

Specifications

Audio section

FTC power output	65 W + 65 W (STEREO, 20 Hz to 20 kHz, 8 Ω , 0.2 %)
Rated power output (Front, Center, Surround)	125 W per channel (1 kHz, 6 Ω , 1 %)
Maximum power output (Front, Center, Surround)	150 W per channel (1 kHz, 6 Ω , 10 %)
Total Harmonic Distortion	0.06 % (20 Hz to 20 kHz, 8 Ω , 85 W/ch)
Guaranteed speaker impedance	FRONT : A, B 6 Ω to 16 Ω FRONT : A+B 12 Ω to 16 Ω SURROUND, CENTER 6 Ω to 16 Ω
Input (Sensitivity/Impedance)	LINE 200 mV/47 k Ω
Output (Level/Impedance)	REC 200 mV/2.2 k Ω
Signal-to-Noise Ratio (IHF, short circuited, A network)	LINE 98 dB

Video section

Signal level	Composite 1 Vp-p (75 Ω) Component Video Y: 1.0 Vp-p (75 Ω) PB, PR: 0.7 Vp-p (75 Ω)
Corresponding maximum resolution	Component Video 1080i (1125i)/720p (750p)

Tuner section

Frequency Range (FM)	87.5 MHz to 108 MHz
Antenna Input (FM)	75 Ω unbalanced
Frequency Range (AM)	9 kHz step 531 kHz to 1602 kHz 10 kHz step 530 kHz to 1700 kHz
Antenna (AM)	Loop antenna

Digital In/Out section

HDMI terminal	Type A (19-pin)
HDMI output type	5 V, 100 mA
USB terminal	USB2.0 Full Speed (Type A)
iPod terminal	USB, and Video (Composite)

Miscellaneous

Power Requirements	AC 220 V to 240 V, 50 Hz/60 Hz
Power Consumption	245 W In standby 0.45 W
Dimensions	420 mm (W) x 158 mm (H) x 347.7 mm (D)
Weight (without package)	9.1 kg

Furnished Parts

Microphone (for Auto MCACC setup)	1
Remote control	1
Dry cell batteries (AAA size IEC R03)	2
AM loop antenna	1
FM wire antenna	1
iPod cable	1
These operating instructions	



Note

- The specifications are applicable when the power supply is 230 V.
- Specifications and the design are subject to possible modifications without notice, due to improvements.

Cleaning the unit

- Use a polishing cloth or dry cloth to wipe off dust and dirt.
- When the surface is dirty, wipe with a soft cloth dipped in some neutral cleanser diluted five or six times with water, and wrung out well, and then wipe again with a dry cloth. Do not use furniture wax or cleansers.
- Never use thinners, benzene, insecticide sprays or other chemicals on or near this unit, since these will corrode the surface.

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